Interrogating the Anthropocene

GTI Forum
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Human activity has pushed Earth into a hostile new geological epoch, which scientists have christened "the Anthropocene." This jolt to the planet also jolts the culture, sparking reconsideration of who we are, where we are going, and how we must act.

The question before this GTI Forum: If we care about building a decent future, how should we think about the Anthropocene? An opening essay offers answers, then two panels probe the lessons and limitations of the Anthropocene narrative.

A project of the Tellus institute, the Great Transition Initiative is an international collaboration for charting pathways to a planetary civilization rooted in solidarity, sustainability, and human well-being.

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Contributions

Opening Essay

Panel 1: A Compelling Narrative

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Author's Response

Interrogating the Anthropocene: Truth and Fallacy

Paul Raskin

In the Anthropocene, what does your freedom mean?[1]

The Anthropocene concept advances the stunning proposition that human activity has catapulted Earth out of the relatively benign Holocene into a hostile new geological epoch. The recognition of our species as a planet-transforming colossus has jolted the cultural zeitgeist and sparked reconsideration of who we are, where we are going, and how we must act. What are the implications for envisioning and building a decent future? If we care about a Great Transition, how should we think about the Anthropocene?

Resonances

An examination of the Anthropocene idea must start with a disturbing scientific truth: human activity has altered how the Earth functions as an integral biophysical system. For decades, evidence has mounted of anthropogenic disturbance of planetary conditions and processes, notably, the global climate, ocean chemistry, the cryosphere, the nitrogen cycle, and the abundance, diversity, and distribution of fauna and flora. Rippling synergistically across space and time, this multipronged disturbance compromises Earth's stability and heightens risks of a disruptive state-shift of the system as a totality.

Such pronounced human modification of the planet prompted earth scientists to propose the designation of a new geological epoch in a landmark 2000 article.[2] They christened it "the Anthropocene," an evocative neologism signifying the Age of Humanity ("Anthropos"). If formally adopted by geological authorities, the Anthropocene would add a new tick to Earth's timescale, closing the curtain on the 11,700-year old Holocene, the comparatively stable geological epoch

that enabled the emergence of civilization. *Homo sapiens* would join the list of other great Earth-shakers, such as the cyanobacteria explosion that oxygenated the atmosphere, the astronomical alignments that triggered Ice Ages, and the killer asteroid that wiped out the dinosaurs.

The process of making the geoscientific case—establishing a distinctive anthropogenic "geological signal"—has been a long slog through the stratigraphic weeds. After years of extensive debate, scientific opinion seems to be coalescing around validation of the Anthropocene with a starting date in the mid-twentieth century.[3]

Ultimately, scientific authorities may determine that the Anthropocene fails to meet geological criteria for a new epoch, but the term almost certainly will persist as scholarly shorthand and popular buzzword for an epochal phenomenon: Earth transformed by human hand.[4] The Anthropocene cat is out of its geological bag, prowling and insinuating itself into far-flung precincts of cultural, intellectual, and political zeitgeists. The coinage has struck a chord far beyond the scientific community, reverberating across academic disciplines and the broader culture. This burgeoning "Anthropo-scene" has generated a fertile cacophony of ideas feeding a flood of books, journals, conferences, blogs, arts, and films.[5]

The shock of the Anthropocene jolts old paradigms and worldviews.[6] For the social sciences and humanities, the entanglement of human and planetary history realigns fundamental questions—about our place in nature, our responsibility to the community of life, our concepts of progress, and our visions of a good society. For political culture, looming eco-dangers sharpen strategic debate on who is to blame and what is to be done. For human psyches, the sense of living in a world pivoting from a familiar past to an alien future induces both disorientation and despair, as well as defiance and action.

The cultural and political import of the Anthropocene idea lies in its capacity to shake up complacency, problematize the familiar, and reorient perspectives. Far more than a shopworn term like sustainability, it dramatizes the ecological critique of business-as-usual, stirring the inattentive from their daydreams and gradualists from their illusions. As faith in the status quo erodes, space opens for dialogue on alternative visions and initiatives for systemic change. The Anthropocene's important contribution to a Great Transition is to stimulate a new consciousness attuned to our

shared planetary fate. The Anthropocene stands as a powerful, if incomplete, truth for our fraught moment.

Dissonances

Notwithstanding the Anthropocene's merits as a geological thesis and ideological provocation, its formulation of the global moment as the "Age of Humans" has spurred considerable controversy independent of the natural science discourse. In the humanities and social sciences, the debate centers on the implications for historical theory and political narrative. Two questions are key for advancing a transformative praxis. First, does the Anthropocene adequately elucidate the contemporary global predicament? Second, does it offer an account of our collective experience useful for guiding action?

The primary criticism of the Anthropocene as a social paradigm is that it yokes a profound insight about planetary history to a profound misconception about human history. The misconception lies in the ascription of cause and culpability for the Earth-shift to the human species as an undifferentiated "we." The emphasis on aggregate human agency obscures the roots of the crisis in the evolution of the modern world system, and thereby distracts from root-and-branch remedies for transforming that system.[7]

To caricaturize only a little, the Anthropocene narrative can be told as an epic tragedy. The drama features two leading protagonists: the Promethean creature Anthropos and the bountiful planet Earth. Over the centuries, reckless Anthropos has unleashed its boundless technological prowess to appropriate and subdue Earth, unwittingly devastating its own home and haven. The God-species prospered and multiplied, beating a path to the four corners of the wounded planet. Anthropos and Earth were on a collision course: endless growth on a small planet was a contradiction that could be denied but not revoked. Now, the moment of truth has arrived. Avenging Earth is striking back with a ferocious onslaught of fire, flood, and famine. Anthropos slowly awakens to the danger of its ways but, compelled by ancient urges, seems unable to desist from its suicidal march.

What might happen next? The Anthropocene narrative arc can be logically extrapolated in several directions, none promising. In one storyline, Anthropos redirects its Promethean powers to the task

of engineering a way out of the fix. In a contrasting narrative, Anthropos atones for its predations, transforming its nature to find humility, rectitude, and self-restraint. In a dark scenario, hopes for tech-fix and enlightenment prove illusory, and the colossi remain locked in an inexorable dance of doom.

One prominent school of techno-optimists reframes the crisis as a grand opportunity for human ingenuity to pave the way to a "good Anthropocene," cheerfully oblivious to the staggering environmental and political pitfalls on this road. In celebrating the very domination of nature that brought Anthropos to the brink, this self-styled "ecomodernism" argues that we are, in fact, anthropocentric to the bone and had better get good at it.[8] What could go wrong with this uber-Promethean remaking of Earth for human needs? This is not the place for cataloguing the possibilities: the unintended side effects of trying to design an altered planet, the unanticipated curveballs that Earth will toss back at us, and the battles over who gets to decide in a world of asymmetric power and impacts. But without doubt, billions would suffer in the pursuit of technocratic utopia.

Dissenters from the church of technology seek a humbler denouement to the Anthropocene narrative. They beseech Anthropos to shrink back to simpler lives, smaller numbers, and dematerialized ambitions. But calls for prudence and self-restraint, while admirable, would fall on deaf ears if the impulse to grow and dominate is etched into the genetic makeup of our species. Within the confines of the Anthropocene mythos, investing hope in degrowth, downshifting, and small-is beautiful seems little more than happy talk and wishful thinking.

If the dream of re-engineering Earth is deranged and of reinventing Anthropos far-fetched, where does the relentless logic of the Anthropocene lead? Many who grasp the depth of the crisis are left reeling at the brink of an existential abyss. Seeing no way out, they are haunted by visions of eco-catastrophe. An apocalyptic disposition tugs at psyches, spreading an epidemic of despair and resignation. The Anthropocene narrative segues into premonitions of utter dystopia: Anthropos falls and transfigured Earth sails onward free of its unlamented passenger.

How do we bypass these dead ends of hubristic techno-fix, voluntary simplicity, and ecological Armageddon? For a viable way forward, we need a larger story that anchors the shift in planetary

history in the shift underway in human history. Then, the Anthropocene, rather than an inevitable consequence of an unbound species, becomes understood as rooted in social evolution. The geological moment is a contingent outcome of the historical path etched by human agency, social struggle, and the inherent uncertainty in the dynamics of social-ecological systems. Like the past, the future can unfold along different civilizational trajectories. The hopeful path ahead would transcend modernity, not re-engineer it, shrink from it, or succumb to it.

By indicting a homogeneous "we," rather than a spent stage of history, the Anthropocene conceals a contested social system from scrutiny and shields it from culpability. Moreover, its species thinking masks the differential responsibility of colonizers and colonized, haves and have-nots, capitalists and workers, entrenched and excluded. Yet these distinctions are essential for understanding the etiology of a world beset by the crises of disparity, injustice, and ecology—and for fashioning a transformative politics. We may not be able to engineer a good Anthropocene or good homo sapiens, but we can create a society that elicits and nurtures the better angels of our collective nature.

Welcome to the Planetary Phase

We have discussed how the Anthropocene falls short as scaffolding for critical thinking and collective action. Although its geological lens brilliantly illuminates a *planet in transition*, its species thinking obscures the way forward for a *world in transition*. Its ecology shouts "awake," but its sociology whispers "too late." Still, any credible account of the world and its future must grapple with a game-changing reality: human transformation of Earth. Vestigial worldviews and ideologies that fail to foreground the Anthropocene will be consigned to the proverbial dustbin of history.

Hence, the task before us is to create a conceptual framework retaining the Anthropocene's ecological truths while avoiding its historical fallacies. The key is to root the story of geological shift in the overarching story of contingent and contested social evolution. In this spirit, some critics of the ahistoricism reflected in the very term Anthropocene have proposed alternative names to accentuate social forces driving ecological change. The temptation to substitute a favored prefix has produced a copious catalog of portmanteaus: Capitalocene, Technoscene, Manthropocene, Plantationocene, Oligarchocene—and the list goes on.[9]

These neologisms, by refracting the Anthropocene idea through preexisting political lenses, risk appearing as special pleading for selective narratives. But to be fair, each "cene" highlights an important social correlate of anthropogenic pressure on the planet. Taken together, they suggest the multidimensional complexity of historic causation and underscore the poverty of the species thinking at the core of the Anthropocene formulation. Capitalocene, the most systemic of the alternative appellations, rightfully has gained the greatest traction.[10] But no strictly geological designation has the breadth to communicate the layered, holistic social-ecological transition now underway or to undergird a widely shared vision and collective action. At any rate, the important debate ahead will be over the meaning of the Anthropocene, not the name.

Great Transition (GT) theory emerged concurrently with the Anthropocene perspective, distinct responses to a common recognition: history had reached a major inflection point. Where the Anthropocene's point of entry was the crisis of the Earth system, GT's was the crisis of civilization: the macro-transition from the Modern Era to the *Planetary Phase of Civilization*.[11] The Planetary Phase is the child of the Modern Era. With capitalism its prime mover, modernity's frenzy of revolutionary change—economic expansion, cultural upheaval, scientific discovery—relentlessly radiated from its European roots to engulf traditional societies in its midst and on its periphery. Over the centuries, the system's growth imperative has progressively entangled all nations and peoples in a single global formation.

Thus, the Planetary Phase framework highlights the Anthropocene as a major prong in a multidimensional transformation. The social-ecological shift emanates from a spent and dysfunctional system unable to reverse the instabilities it has generated. Rather than the predestined culmination of an expansionist species, the rupture in earth history is a consequence of a contingent, contested phase of human history. The phenomenon of the Anthropocene, by whatever name, is best understood as the portentous geological manifestation of a systemic crisis with many faces. It is the inadvertent outcome of a historical path buffeted by the choices, struggles, serendipities, and bifurcations that shaped the modern world.

Therefore, the Anthropocene is the child of the Planetary Phase. A counterfactual helps demonstrate its paternity: what if somehow a tweak of chemistry neutralized CO2 as a greenhouse

gas? The climate crisis would dissipate and, without its principal justification, so would talk of an Anthropocene. Yet, the Planetary Phase—the macro-transition to an interdependent, superordinate global system—would continue apace. By contrast, if world history had not reached its globalized stage, there would be no Earth system crisis. The Planetary Phase is the predicate of the Anthropocene.

The form of civilization that ultimately crystallizes from the chaos of transition remains inherently uncertain and deeply contested. In the chaotic interregnum between old and new, ecological, economic, and social instabilities intensify and risks multiply. Established institutions and ideologies, increasingly unable to cope with crises, lose legitimacy, leaving a vacuum of fear, dislocation, and resentment that breeds authoritarian politics and nativist inclinations. Fortunately for our future, another reconstructive force comes into play, as well, in the dialectic of transition.

The Anthropocene story nurtures depoliticized responses—the mad logic of geoengineering and the sad logic of apocalypse. The Great Transition idea returns the quest for the future to the teleology of social vision and the impetus of social struggle, calling us to forge a successor civilization. Our shared fate in the Planetary Phase underwrites the expanded identity, solidarity, and citizenship that makes us fit for the task.

What we choose to do—and not do—will shape the world and the Earth itself. The wise discharge of this awesome responsibility rests with a keen understanding of the contemporary predicament. The Anthropocene encapsulates a powerful geological truth, but also a pernicious historical fallacy that obfuscates the past and befogs the future. An apt slogan for the Anthropocene comes courtesy of Pogo: "We have met the enemy and he is us!" The right rejoinder would be mass mobilization for a Great Transition: "We have met the solution and she is us!"

Endnotes

1. Singer-songwriter Nick Mulvey poses this question in his poignant lament "In the Anthropocene," https://www.youtube.com/watch?v=OYnaQIvBRAE.

2. Paul J. Crutzen and Eugene F. Stoermer, "The 'Anthropocene,'" International Geosphere-Biopshere Programme (IGBP) Newsletter, 2000, reprinted in "Have We Entered the 'Anthropocene'?," International Geosphere-Biopshere Programme, October 31, 2020, http://www.igbp.net/news/opinion/opinion/haveweenteredtheanthropocene.5.d8b4c3c12bf3be638a8000578.html. For an overview of the origins, meaning, and status of the idea, see Yadvinder Malhi, "The Concept of the Anthropocene," *Annual Review of Environment and Resources* 42 (2017): 77–104.

3. To weigh the evidence, the International Commission on Stratigraphy (IGS), the guardians of Earth's timeline, formed the advisory Anthropocene Working Group (AWG). After a decade of deliberation, the AWG recommended that the Anthropocene, indeed, be treated as a "formal chrono-stratigraphic unit" that began with the mid-twentieth-century Great Acceleration when the curves measuring human impact bent skyward. If the IGS accepts this recommendation, the question will be referred to the International Union of Geological Sciences (IUGS) for endorsement.

4. As a scientific matter, the criteria of geological verification, with its focus on rock layers and fossil records, is ill-suited to the holistic task of assessing the state of the Earth as an integrated system. However, the new discipline of Earth system science lacks the gravitas enjoyed by the IUGS.

5. Jamie Lorimer, "The Anthropo-scene: A Guide for the Perplexed," *Social Studies of Science* 47, no. 1 (2017): 117–142.

6. Rob Nixon, "The Anthropocene: The Promise and Pitfalls of an Epochal Idea," *Edge Effects*, November 6, 2014, https://edgeeffects.net/anthropocene-promise-and-pitfalls/.

7. The essence of the Anthropocene's social narrative is reflected in the title of Paul Crutzen's highly influential "Geology of Mankind," *Nature* 415, no. 23 (2002). For social scientific critiques, see, inter alia, Andreas Malm and Alf Hornborg's "The Geology of Mankind? A Critique of the Anthropocene Narrative," *The Anthropocene Review* 1, no. 1 (2014): 62–69, as well as Ian Angus's *Facing the Anthropocene: Fossil Capitalism and the Crisis of the Earth System* (New York: Monthly Review Press, 2016), which locates the Anthropocene within a Marxist framework.

8. Notable tech-fix paeans include "An Ecomodernist Manifesto," April 2015, https://www.ecomodernism.org/; Michael Shellenberger and Ted Nordhaus, eds., *Love Your Monsters: Postenvironmentalism and the Anthropocene* (Oakland, CA: Breakthrough Institute, 2011); and Mark Lynas, *The God Species: Saving the Planet in the Age of Humans* (Washington, DC: National Geographic Society, 2011). More measured versions of earth management appear in the mainstream policy discourse, e.g., Frank Biermann, *Earth System Governance: World Politics in the Anthropocene* (Cambridge, MA: MIT Press, 2014). Clive Hamilton has been among the most incisive critics of ecomodernism, e.g., "The Technofix Is In: A Critique of 'An Ecomodernist Manifesto,'" *Clive Hamilton* (blog), April 24, 2015, https://clivehamilton.com/the-technofix-is-in-a-critique-of-an-ecomodernist-manifesto/.

9. Jean-Baptiste Fressoz and Christophe Bonneuil add seven alternative "cenes," such as Thermocene, Thanatocene, and Phagocene emphasizing, respectively, climate, power, and consumerism. See *The Shock of the Anthropocene: The Earth, History, and Us*, trans. David Fernbach (London: Verso, 2017).

10. See, e.g., Jason Moore, ed., *Anthropocene or Capitalocene? Nature, History, and The Crisis of Capitalism* (Oakland, CA: PM Press, 2016), especially, Elmar Altvater's "The Capitalocene, or, Geoengineering against Capitalism's Planetary Boundaries," 138–152. But Ian Angus, in a persuasive critique of Moore, cautions against diminishing the findings of Earth system science; see "'Anthropocene or Capitalocene?' Misses the Point," *Climate & Capitalism*, September 26, 2016, https://climateandcapitalism.com/2016/09/26/anthropocene-or-capitalocene-misses-the-point/.

11. The concept was introduced in Paul Raskin, Tariq Banuri, Gilberto Gallopín, Pablo Gutman, Allen Hammond, Robert Kates, and Rob Swart, *Great Transition: The Promise and Lure of the Times Ahead* (Boston: Tellus Institute, 2002), https://greattransition.org/gt-essay. For an updated and expanded discussion, see Paul Raskin, *Journey to Earthland: The Great Transition to Planetary Civilization* (Boston: Tellus Institute, 2016), https://greattransition.org/publication/journey-to-earthland.

About the Author

Paul Raskin is the founding president of Tellus Institute. His work has focused on visions and pathways to a decent future from local to global scales. He has developed widely used integrated assessment models for energy (LEAP), water (WEAP), and sustainability (PoleStar). In 1995, Dr. Raskin convened the international Global Scenario Group, whose valedictory essay—*Great Transition: The Promise and Lure of the Times Ahead*—became the point of departure for the Great Transition Initiative that he continues to direct. His most recent book is *Journey to Earthland: The Great Transition to Planetary Civilization*. He holds a PhD in theoretical physics from Columbia University.

Panel 1:
A Compelling Narrative

Searching for Solidarity

Maurie Cohen

In his opening essay, Paul Raskin usefully expands discussion of the Anthropocene and connects the central tenets of this proposition to Great Transition theory. There is no question that he is correct when he writes, "The Anthropocene cat is out of its geological bag, prowling and insinuating itself into far-flung precincts of cultural, intellectual, and political zeitgeists." At this point, it hardly matters what the august and insulated International Union of Geological Sciences ultimately decides.

For anyone concerned with the future, the challenge is to envision how the next stages of the Anthropocene might unfold. In prevalent conceptions of the Great Transition, solidarity is placed at the center of emergent processes of change. In short, the presumption is that the anticipated transformation will likely be out of reach in the absence of adequate social cohesion. But what could motivate this globally diffused unity of purpose? Or more prosaically, how will we get along in the Anthropocene?

The nineteenth and twentieth centuries gave rise to numerous philosophies and policy frameworks that sought in their own ways to achieve broadly similar ends. An initial list of the alternatives includes socialism, communism, capitalism, nationalism, internationalism, transnationalism, consumerism, and economic growthism. Other prominent, and arguably more benign, efforts were mobilized under the banners of trade unionism, science, public health, tourism, resource conservation, athletics, and the recently popularized Latin American notion of buen vivir ("good living"). On a smaller scale, one of the more successful programs to foster solidarity over the past century has been Nordic social welfarism, though it must be acknowledged that this achievement is attributable to the galvanizing of conjoint bonds

among relatively small and homogeneous communities rather than large and dissimilar publics.

In recent years, and building on a deep legacy from different religious doctrines, Pope Francis has become an important voice in efforts to identify and leverage aspects of our common humanity. Writing last month on the pages of the *New York Times*, the Pontiff observed that "sometimes, when you think globally, you can be paralyzed…[yet there] are moments in life that can be ripe for change and conversion." Reflecting specifically on the challenges of COVID-19, he aspires to arouse solidarity through a sense of "regard for all citizens and seeking to respond effectively to the needs of the least fortunate." The Pope concludes his reflections by noting that "What ties us to one another is what we commonly call solidarity. Solidarity is more than acts of generosity, important as they are; it is the call to embrace the reality that we are bound by bonds of reciprocity. On this solid foundation we can build a better, different, human future."

While in equal parts eloquent and inspiring, it strikes me that this heartfelt homily lacks a strategy for meaningful implementation. How do we proactively instill harmony in a world that seems prefigured for fragmentation and strife?

A contemporary retort is to regard climate change as the ultimate assault on the future of humanity, an existential threat from which we have no other choice but to cooperate. However, scratch the surface of well-meaning appeals to shared destiny and initiatives to curtail heat-trapping wastes are more accurately characterized as a race to secure competitive advantage by way of technological breakthroughs. Indeed, Raskin acknowledges this point when he poses the question, "[W]hat if somehow a tweak of chemistry neutralized CO2 as a greenhouse gas?" In other words, we are in a headlong rush to discover the atmospheric equivalent of a coronavirus vaccine —a "solution" that will loosen the constrictions of the immediate crisis without the need to address its underlying causes.

So we are left, ultimately, with a conundrum, one that has persisted for the past century. Whether we call the emergent future the post-Anthropocene, the Good Anthropocene, or the Planetary Phase of civilization, how do we induce mutualism and common purpose over competition and discordance? Around what objectives should social movements be seeking to forge social

coherence? For me, Raskin's clear-eyed ruminations point to a need to envision and operationalize global solidarity in ways that do not rely, as they do today, either on instrumentally constructed arrangements for international trade or moral appeals to our better angels.

But where might we begin? Are there small-scale social innovations that could serve as useful and encouraging templates? In a primer on sustainability published last month as part of Polity's *Short Introductions* book series, I highlight several experiments, some familiar and others more obscure including community renewable energy schemes, communal kitchens, food swaps, local manufacturing, and producer-consumer cooperatives. Perhaps the most salient insight from these experiences is that we cannot just talk about solidarity. Neither can we rely on governments and other putatively benevolent but distant institutions. We need to live it as well as teach it in our schools so that there is a robust corps of avid and enthusiastic practitioners who can deliver the lessons into neighborhoods and living rooms.

About the Author

Maurie Cohen is Professor of Sustainability Studies and Director of the Science, Technology, and Society Program at the New Jersey Institute of Technology. He is also Associate Fellow at the Tellus Institute, co-founder and Executive Board Member of the Sustainable Consumption Research and Action Initiative (SCORAI), and editor of the journal *Sustainability: Science, Practice, and Policy*. His books include *Sustainability*; *The Future of Consumer Society: Prospects for Sustainability in the New Economy*; and *Exploring Sustainable Consumption*. He holds a PhD in regional science from the University of Pennsylvania.

Intimations of Transcendence

Herman Daly

The Promethean animal, of course, is us, Anthropos, and as with other animals, it is the planet Earth that by evolution gave us life and all the non-unique attributes that we share with other living things on whom we depend. Just as with our fellow creatures, evolution has fitted us for life on Earth, not on Mars, Saturn, or even the Moon. Yet we uniquely transcend other living beings, who, however wonderful they may be in various ways, lack our capacity for thought, science, technology, art, philosophy, and goodness—as well as for evil and delusion.

This was true before the Anthropocene, and it is even more evident after. Many neo-Darwinian materialists deny transcendence, and leap from the facts of ecological interdependence and common ancestry of all species to the illusion of equality of all species —a leap that requires the denial, or at least gross understatement, of human transcendence. This denial is painted in the politically correct colors of humility and species democracy. What hubris, some say, to claim a unique transcendence denied to our fellow creatures! A bit of hubris perhaps, but wrapped in a thick blanket of false humility that insulates us from living up to the obligations of our transcendence.

True, the kinship of humans with the rest of life is strong, and we differ in our DNA by only a very small amount from our nearest cousins who do not share the Promethean exuberance that has led to the Anthropocene. For such a small material difference to explain all of language, science, technology, art, religion, mathematics, music, etc., makes one look beyond materialism in search of a transcendent spiritual explanation. Or if one is wedded to materialism, as so many are nowadays, one must at least regard the small genetic human difference to be analogous to a small material key that unlocks a large door beyond which are material possibilities so discontinuously novel as to be transcendent.

Traditionally, we have located transcendence in the spiritual realm beyond the reach of materialism. In modern secular times, belief in the spiritual dimension of existence has waned, and what remains of it is more and more smuggled into the material realm, there to be reborn (or misbegotten?) as the Singularity, Space Colonization, Infinite Growth, and Transhumanism. Rather than "rejoin our unique transcendent endowment to the planet that gave us life," we seem to want to cut ourselves completely free from any transcendent endowment, as well as from our mother planet, and go floating untethered to the cold, distant, dead, and radioactive vacuum of space. The suffering Earth is not our responsibility. Such is the "Anthropocene" of the untamed Promethean animal whose transcendence is neither recognized nor rejoined in service to the Earth.

What we now call the "Anthropocene" seems to be a merely half-baked and half-hearted use of the unique gifts bestowed on Anthropos. To deserve the term "Anthropocene" requires a more grateful and willing acceptance of our unique transcendent endowments, and of the duty to the rest of Creation that it entails.

About the Author

Herman Daly is an ecological economist and Emeritus Professor at the University of Maryland, School of Public Policy. From 1988 to 1994, he was a Senior Economist in the Environment Department of the World Bank. Prior to that, he was a professor of economics at Louisiana State University, where he taught for twenty years. He has served as Ford Foundation Visiting Professor at the University of Ceará (Brazil), Research Associate at Yale University, Visiting Fellow at the Australian National University, and Senior Fulbright Lecturer in Brazil. He was co-founder and associate editor of the journal *Ecological Economics*. He has written extensively on theorizing the steady-state economy and co-developed the Index of Sustainable Welfare. He holds a PhD from Vanderbilt University.

Mass Mobilization Now

Uchita de Zoysa

In his eloquent essay "Interrogating the Anthropocene," Paul Raskin argues that the concept of the Anthropocene leads to "depoliticized responses" at a time when we need to embrace "the teleology of social vision and the impetus of social struggle." However, he finds grounds for hope in the material realities of global interconnectedness: "Our shared fate in the Planetary Phase underwrites the expanded identity, solidarity, and citizenship that makes us fit for the task."

As Raskin also notes, material realities alone cannot create the mass mobilization required for a Great Transition. We all have to play our part, and to start, we need to reflect on what such a mobilization would look like; what an "expanded identity, solidarity, and citizenship" would look like; and how to make them all into realities.

An inquiry into what we have done so far would reveal the fragmentation that exists across societies and social movements. The Anthropocene that has linked our fates in an endangered Earth system has also guided even the most intellectually skilled and financially empowered into a state of fragmentation, oriented more towards competition than compassion and co-creation.

Has the shock brought about by the COVID-19 pandemic led us towards a mindful inquiry into a New Normal? Or have we been guided by human instincts for survival? Now that the race for vaccination has been begun, we can expect politicians to revert to promoting greed-driven economic strategies that facilitate privatization and the concentration of wealth. In such a scenario, what would be the right response for a mass mobilization for a Great Transition?

A mass mobilization has been triggered by the COVID-19 pandemic, but the reality should frighten rather than reassure us. We can see its results in the centralization of state power and a

diminished role for subsidiarity. While a New Normal had briefly led the more thoughtful to relate to ecosystem-services-driven prosperity modeling, the absence of an inclusive or shared prosperity program keeps the future more bleak than transformative.

A movement for mass mobilization is begging for attention. Our focus must be on strategic foresight for co-created and collective action. The realities of diversity and tendencies for fragmentation will remain, but we can learn from past successes and failures. The most important question, though, is what form this mobilization would take. The lack of mindfulness-driven mass mobilization efforts thus continues to keep us stuck in a state of dialogue rather than action. Three strategic interventions could help steer us in the right direction: (i) reimagining mobilization towards a Great Transition, (ii) reorganizing mobilization towards a Great Transition, and (iii) reinvesting in pathways towards a Great Transition.

As noted by Raskin, if human activity has catapulted Earth out of the relatively benign Holocene into a hostile new geological epoch, then a Great Transition will depend on recalibrating the context of the Anthropocene. A Great Transition could be a conscious movement of action, if reimagining leads to recalibrating the approach to prosperity systems, reorganizing leads to recalibrating the approach to governance processes, and reinvesting leads to recalibrating the approach to unsustainable behavior.

About the Author

Uchita de Zoysa is an author and strategist on the global sustainability transformation. He has served as Sri Lanka's Chief Negotiator for the UN Sustainable Development Goals and Advisor to the Minister of Sustainable Development and Wildlife. He is Chairman of Global Sustainability Solutions, Executive Director of Centre for Environment and Development, and Principal of the SDG Transformation Lab. He holds a PhD from University of Sri Jayewardenepura.

Learning from Nature

Olivier Hamant

More than a new epoch, the Anthropocene is a transient anomaly in geological times or a human-mane crisis. The Anthropocene cannot be reduced to a Capitalocene or an Anglocene, even if capitalism, industrialism, utilitarianism, or colonialism have been key catalysts.[1] Instead, the drive of humans towards performance (used here to refer to the combination of efficacy—i.e., reaching one's goals—and efficiency—i.e., with a minimum of means) is a central feature of the Anthropocene and is shared in all political systems—capitalist, communist, or religious states. In the end, the Anthropocene crystallizes the concept of counterproductivity (as conceptualized by Ivan Illich), i.e., when each performance increment reduces robustness.[2]

The Anthropocene is an era of risk and uncertainty. In fact, in the Anthropocene, our only certainty is the maintenance of uncertainty.[3] We shouldn't view it solely as a time in which humans have taken control over the whole planet. This is rather a time when humans realize that they have lost control. It is a time of deep humility. In that sense, the etymology behind the Anthropocene is quite ironic, as this "new human" refers to a species realizing it is under the highest threat ever.

A very productive aspect of the Anthropocene in scientific circles is the attempt to unify the many issues of our time under a single umbrella, highlighting the many interdependencies with Earth (sometimes more distantly, e.g., how the digital and ecological revolutions share the same roots).[4] This word praises systems thinking. Conversely, this unification may hide a central issue: the contradictions in the different discourse and solutions provided. As Mike Hulme writes, "One Earth, many futures, no destination."[5]

We probably need to shift away from the trap of promoting performance even further (e.g., geo-engineering, in the "good Anthropocene") with the associated increase in risk level, or from the naïve view of a world becoming slow (a negative limit is unlikely to engage action). In other words,

the Great Transition shall not be reduced to a great addition or a great regression (respectively). We are in fact living a Darwinian moment where the idea of performance is questioned more deeply. We are at a tipping point where our values and trajectory are driven away from performance to embrace resilience thinking.

The past 500 years have taught us very little on resilience. Biology can offer some interesting insights on this question, simply because living organisms always put resilience before performance: they have been selected on their ability to face uncertainties during evolution. In that sense, they have not prioritized efficiency but adaptability. Of course, such a standpoint should not be applied to human societies without care (e.g., humans would want to keep intention and objectives, whereas living systems are fundamentally under probabilistic rules, and their trajectory happens a posteriori). However, some key principles may be put forward, and could help to avoid the trap of fast versus slow adaptation.

Endnotes

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Science Against Ideology

Clive Hamilton

Paul Raskin's opener to the forum is an excellent introduction to the issues and poses some hard questions for those of us anxious about the future of the planet and life on it. Here, I would like to comment on the central theme of the opener and the wider debate among social scientists surrounding criticism of the term "Anthropocene."

Summarizing the concerns, Paul writes that by "indicting a homogeneous 'we,' rather than a spent stage of history, the Anthropocene [label] conceals a contested social system from scrutiny and shields it from culpability." Such criticisms, however, are misguided.

First, does the term "Anthropocene" actually conceal anything? Isn't it true that everyone involved in the debate already sees the world through a homogenizing lens or through one of social division and conflict? Even the earth system scientists most involved in Anthropocene studies are, for the most part, fully aware of the social divisions behind the climate crisis. People like Will Steffen write about it often. Yet it suits the narrative of some social scientists to focus on an old opinion piece by Paul Crutzen on "the geology of mankind."

Secondly, some who disparage the scientific term for its alleged blindness to social divisions, colonialism, climate justice, and so on take it upon themselves to rename a geological epoch. The stratigraphers who will make the formal decision look on with amusement (if they notice the fulminations of social scientists at all). Some social science and humanities scholars are epistemologically confused. They not only want to rename geological divisions according to the social processes that gave rise to them, but they also want to define the Anthropocene by social rather than geological criteria. The rocks don't matter. The confusion of science with social

science is, in my view, a doleful hangover from post-modern French philosophy. The anti-science of so much left theorizing plays straight into the hands of climate science deniers who characterize climate science as a political project. Progressives worried about climate change should not undermine science. As I have said elsewhere, climate change is too serious for post-modern games.

Thirdly, Paul writes of "the differential responsibilities of colonizers and colonized, haves and have-nots, capitalists and workers" and, on this basis, suggests that "Capitalocene" is the best alternative name for the new geological epoch. I can track back to 1998 my own writing and speaking about the fundamental moral fact of climate change—the rich caused it, the poor will suffer most—but the traditional left view about the world divided into exploiters and exploited (rich North versus global South, colonizers versus colonized, capitalists versus workers) has been shattered by one decisive historical fact: the rise of China.

Consider these facts. China's total CO2 emissions are double those of the USA, and the gap is widening each year as China's grow and America's fall. While the US is closing down coal-fired power plants, China is building new ones. As a result, the average Chinese person's carbon emissions are higher than those of the average European. Describing China as "capitalist" requires theoretical contortions that obscure more than they reveal.

As a carbon polluter, India is coming up behind China, as are other large nations of the South, like Brazil. Big polluters China, India, and Brazil are not colonies of anyone. They are not victims, even if Tuvalu and the Maldives are. Although aggregate historical emissions from the South, led by China, will take another decade or two to match those from the North, the fact is that the future of the world depends predominantly on what the half dozen largest nations of the South do over the next two to three decades.

In light of these facts, simple divisions between the rich, exploitative, colonial North and the poor, exploited, colonized South no longer have any meaning. It is not the geologists' "Anthropocene" that conceals the reality, but the social scientists' "Capitalocene," because it mobilizes stale and misleading ways of framing the problem. Capital = power is no longer a helpful assumption in the climate change debate. Climate science denial made the leap from corporate campaign to political culture years ago (see Trumpism).

The world is much more complicated than simple notions of exploitation allow. For example, "the people" in wealthy democracies have had the opportunity to elect governments promising to slash emissions. They have often voted otherwise, and it is frequently "the workers" who show least concern. In Australia, most business groups and big corporates want an assertive carbon reduction programs. The conservative government is resisting business pressure while the Labor Party is watering down its climate commitments to win votes.

All of this suggests that, while acknowledging deep social and international divisions and conflicts, there is value in considering the Anthropocene problem as one of the relationships between humankind in general and the earth system we have disrupted.

About the Author

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The Power of a Unifying Story

Debbie Kasper

Understandings of the Anthropocene seem to move in two directions. One is a matter of scientific criteria designating a distinct geological epoch. The other, far broader and more variable, generally signifies a human-transformed earth—inviting us to contemplate its meaning and implications in our own ways.

Clearly, the Anthropocene has implications for the possibility of a Great Transition—a turn *away from* the troubled futures to which business-as-usual leads and *toward* a civilization of enhanced environmental resilience and human well-being. I am happy to let the scientists hash out the remaining details of the technical definition and focus on the term's cultural and historical significance. In sum, I tend to favor a bigger-picture view of the Anthropocene for its potential, as Raskin says, "to stimulate a new consciousness attuned to our shared planetary fate."

Historical Scales

To be historical is to capture human actions and their meanings and consequences. With countless possible perspectives, such treatments will necessarily vary. One differentiator is scale. Some make general observations about civilization and humanity, while others take a narrower view—focusing the spotlight on particular peoples, economic systems, technologies, and so on. This variety is good, but each approach has pros and cons.

Raskin underscores the risks of invoking an undifferentiated "we" in discourses about the Anthropocene. The notion of "humanity as a whole" has been criticized for obscuring the culpability of influential systems and actors. There is value in acknowledging the role of significant agents in the contingent and unfolding human story, but there are risks as well.

In particular, I would highlight the risks of *presentism* and *reification*. A disproportionate focus on recent history and the immediate concerns of the day tends to elevate the degree of emotional involvement with which we interpret and react to events. This diminishes our capacity to see clearly and act calmly, contributing to a vicious cycle. And while the current transgression of planetary boundaries is surely an indictment of certain actors and systems, we should be careful not to reify those concepts in ways that perpetuate division and attribute categorical "guilt" or "innocence." This obscures the roots of the crisis, implying the existence of some zero point at which the problems in question (e.g., exploitation, expansion, overconsumption) began (e.g., the advent of colonialism, capitalism, modernity) and to which we can return if only we can identify and eradicate the offending party or system. By contrast, history shows, rather, that the quest for "more"—so amplified and accelerated in recent years—extends back through ages of empire, going at least as far back as agriculture, but certainly long before Europe, capitalism, fossil fuels, and other usual suspects.

So yes, let us hold perpetrators accountable to the degree that is possible. Let us identify problematic structures and rearrange them. This work requires more fine-grained historical analysis, but it needs to be undertaken with caution and, ideally, in concert with a more expansive view.

Catching Up to Reality

The focus on "humanity" in the concept of the Anthropocene is not only warranted, but also useful in several key ways.

(1) *It fosters our capacity for greater detachment.* The perspectival distance afforded by the notion of a human-changed world counteracts the excessive emotional involvement that contributes to escalating dangers. Being situated in a larger whole enables us to see beyond our immediate concerns and supports the development of our capacity for greater detachment (i.e., a more dispassionate view of ourselves and our place in the world).

(2) *It gets at deeper roots of the problem.* How far back in history to go depends on the particular questions asked and outcomes sought. For me, the implications of our current trajectory and the aim of shifting course raise questions about the worldviews, practices, and relational patterns

underlying human activities and their impacts. In particular, we need to better understand the socio-cultural conditions that feed or suppress the impulse for conquest, expansion, and oppression.

(3) *It's true.* "Humanity" is a genuinely useful concept, especially in the context of our "planetary phase"—where interdependence binds "humanity and Earth into a single community of fate."[1] As Norbert Elias pointed out, even if the term once served as a symbol of a far-fetched ideal beyond the reach of scientific inquiry, "at a time when all the different tribes, all states of the world, are drawn together more closely, humanity increasingly represents a purely factual frame of reference."[2] Will Steffen and his co-authors on the landmark "Great Acceleration" article acknowledge what the term obscures but, notably, point out that in the twenty-first century "humanity as a whole" may be edging closer to becoming a reality.[3] The problem is that most people's sense of things has not yet caught up.

(4) *It furnishes the big story we need.* Illustrating the reality of interdependence and the far-reaching impacts of our activities, the Anthropocene concept can help us see, and feel part of, a real bigger picture. Past peoples, for whom social and ecological interdependence was simply part of lived experience, didn't need scientific proof. But they did rely on stories to help them remember and transmit this basic understanding of reality. We who live at a much farther remove from the socio-environmental consequences of our activities, it seems, need both.

Anthropocene as Macroscope *and* Microscope

Historically, the heavens (among other natural phenomena) inspired stories which helped people imagine and understand their place in the universe, a crucial aspect of growing up. These myths cultivate a shared sense of the larger world and offer lessons which inform appropriate action in people's respective "heres" and "nows" (or, as an alternative, you could replace with "places and times").

Similarly, the Anthropocene offers a much-needed global story. In whatever diverse forms it gets told, the gist of this scientifically grounded story zooms our focus out, to show the far-reaching consequences of human actions, and in, to consider the ramifications of our own choices. In this sense, perhaps paradoxically, this species-level story can inform the localization that appears to be both necessary and inevitable.

We need to be able to withstand the tension of moving in two directions at once—building shared global understanding and local capacity, balancing global collaboration with local autonomy and action. The Anthropocene, as simultaneously science as story, can help.

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The Shaping of Our Historical Moment

Heikki Patomäki

A key point of Paul Raskin's beautifully written essay concerns the relationship between the crisis of the Earth system and "the crisis of civilization: the macro-transition from the Modern Era to the Planetary Phase of Civilization." I would like to make a couple of remarks on this, on the basis of critical realist ontology, epistemology, and methodology. We humans and our minds are not separate from the world but an integral and emergent part of it. Emergence means that when lower-level entities are combined, integrated, and organized in a particular way, new higher-level qualities and causal powers come into being, opening possibilities for still new forms and levels of emergence. With new levels of learning and social complexity, and related population growth, the human impact on the Earth system was certain to grow over time (in the course of human history, this has already led to many local disasters). Higher ontological levels remain dependent on the lower levels. Different ontological levels of reality coexist and can have causal effects also across levels. The mind and social world form an interconnected emergent layer of reality with unique structural properties and powers and capacity to impact upon lower levels of reality, as is indicated by the concept of Anthropocene.

From this ontological perspective, it is relatively easy to connect the crisis of the earth system and the macro-transition to the planetary phase of civilization. For instance, the Industrial Revolution led to rapid acceleration of the human impact and thereby to the Anthropocene. It was also the origin of the planetary era. As Karl Polanyi explained in *The Great Transformation*, "the old world was swept away in one indomitable surge toward a planetary economy" and to "the new and hazardous planetary interdependence."

Could this have been otherwise? By exploring counterfactual possibilities of economic and political history, we can shed light on the impact of agency, structures, and complex social

systems on the earth system. Many counterfactual possibilities about the Industrial Revolution are plausible. It could have happened at another time and place, either earlier (perhaps already in the Song Dynasty China before it was conquered by the Mongols) or later (perhaps in North America in the late nineteenth century). Nonetheless, it seems that the Industrial Revolution was bound to happen. We know that for processes at different layers of reality, there are often diverse ways of arriving at roughly the same endpoint. The unevenly shared collective learning of humankind and the self-reinforcing effects of numerous small changes were preparing the ground for the widespread use of fossil fuels and for the Industrial Revolution. Yet the specific path of history matters. For example, an earlier transition to the use of fossil fuels could have sped up the demographic transition, among other things.

The exploration of counterfactuals can also shed light on the debate about Anthropocene vs. Capitalocene. Is capitalist market society a mere historical coincidence? Would everything—including our relationship to nature—be drastically different had history taken, as it could have, a different path at some point(s)? This is a multi-layered, multifaceted, and complicated problematic, but to the best of my knowledge, in all plausible counterfactual scenarios that have been proposed, the Industrial Revolution is associated with some form of capitalist market economy. And as far I understand, it was also Marx's position that the emergence of capitalist practices drove both European expansion and rapid changes in Europe. This suggests not only that what is called Capitalocene is a manifestation of the Anthropocene, but also that in the history of humanity, the Industrial Revolution was probably bound to have been linked with an evolution of practices and institutions that we now associate with markets and "capital."

Various counterfactual possibilities have existed within the capitalist market society and world economy. For example, in the United States by the turn of the twentieth century, 40 percent of automobiles were powered by steam, 38 percent by electricity, and 22 percent by gasoline. The use of energy could have taken a different path without Henry Ford's assembly line and some other developments that favored combustion engine. Many technological, social, and other alternatives could have affected the growth of population and patterns of production, consumption, and waste, with significant effects on the earth system—but all this is contingent on many circumstances.

What is also interesting is that a non-capitalist modernization is not only a counterfactual but also an actual possibility. After the Russian Revolution and especially from the early 1950s to the late 1970s when almost half of the planet was ruled by socialist or communist one-party states, there seemed to be an alternative to capitalism. Did these countries exist just as a part of the capitalist world economy, or did they constitute an independent state-socialist or, in some loose sense, communist reality? One can argue that the Soviet economy was in fact modeled on World War I war economies, that the Marxist-Leninist and Maoist states were tied to the developments in the capitalist world economy, and that similar techniques of planning were developed by market corporations. Nonetheless, world markets played only an indirect role in state-planning, and private property rights for the means of production did not exist. Yet economic developments in these countries had an equally vast—and often especially devastating—impact on the earth system. The Soviet Union contributed significantly to the plutonium fallout of the 1950s and to the rise of CO2 emissions. The state-socialist camp might have been a latecomer in the production of fridges, freezers, and air conditioners, but nonetheless played a role in the depletion of the ozone layer.

The Anthropocene is here to stay unless humanity somehow succeeds to destroy itself, whereas the profit motive and capital accumulation may well cease to play a dominant role in world-historical developments. The term "Capitalocene" does not refer to a geological era, but to a more specific and transient world-historical era. What the Anthropocene means is that we humans recognize our deep interconnectedness with—and dependence on—the complex living systems of the planet. Whether "capital" will be driving developments or not, from now on we must contribute to shaping the developments of the planet. Planet Earth has been alive for a long while. Its life-systems have been disturbed several times by massive events and changes. Now it is us humans who are causing disturbances on a catastrophic scale. Under these circumstances, there is no positive alternative to reflexive self-regulation aiming at maintaining life-friendly climatic and biogeochemical conditions. Reflexive self-regulation may simultaneously also contribute to improving the social conditions of ethico-political learning and reflexive self-determination. Learning to co-determine, in a democratic fashion, the direction of world history means that the sphere of human freedom can be gradually widening. This is the essence of human emancipation conceived as a historical process.

As far as the future is concerned, we do not talk about counterfactuals but about scenarios of possible futures. Not everything is possible. Possibilities and impossibilities are context-bound. X may be possible in general, but impossible in the context C or incompossible together with Y. When multiple causal mechanisms, tendencies, and processes interact, involving human agency, they define both compossibilities and incompossibilities. Within these limits, we can talk about rational tendential directionality of history. Tendencies are transfactual and may push history towards a particular direction across a set of possible and different paths.

We, and our consciousness, constitute a causally efficacious layer of the world and cosmos, and this layer can co-determine future history within the confines of real compossibilities and incompossibilities. The feasibility of alternatives depends also on the degree of human freedom. Each alternative possible future can then be assessed in terms of its impact on the earth system in decades, centuries, and millennia to come.

About the Author

Heikki Patomäki is a social scientist, activist, and Professor of World Politics at the University of Helsinki. He has published over 20 books, 200 research papers, and hundreds of popular articles and blogs on such topics as the philosophy and methodology of social sciences, peace and futures studies, and global political economy, justice, and democracy. His books include *Disintegrative Tendencies in Global Political Economy* and *A Possible World: Democratic Transformation of Global Institutions* (with Teivo Teivainen). Patomäki is a full member of the Finnish Academy of Sciences and Letters and Life Member of Clare Hall at the University of Cambridge. He is a longtime activist of the international Attac movement and a member of the Steering Committee of EuroMemo and DiEM25. He holds a PhD from the University of Turku.

Anthropos and Human Agency

Stephen Purdey

Paul Raskin has challenged us to think of the Anthropocene epoch not as an epic battle between a Promethean Anthropos and a bountiful but vulnerable Earth, but as "a contingent outcome of the historical path etched by human agency." This is useful because it personalizes the hard problem of transformational change by situating it in "the teleology of social vision and the impetus of social struggle."

Agency begins with the individual, but at the same time Paul is right to emphasize the importance of social context. Personal action needs plurality in the same way that performance artists need an audience; without the presence and acknowledgment of others, action has no meaning. A global citizens movement as a form of transformative social struggle, for example, must be grounded in the uniqueness of individual agency, but made strong in a context of social solidarity.

The foregoing offers a down-to-earth kind of pragmatic humanism, but there is also a more holistic path forward, grounded in transcendent realism.

Because context is important to agency, I question Raskin's dismissal of the Anthropos vs. Earth perspective, which he calls a "profound misconception about human history." It is actually quite compelling to see (as an ecologist would) humanity as a single super-species fully capable of invasively overrunning the planet—which is exactly what we've done, i.e., growing aggressively because we can—but equally because we want to. Instead of choosing to rein in the atavistic impulse to expand our dominion, human agency on the whole is fully aligned with and adds tremendous impetus to it. These contextual elements of the whole-Earth gestalt are both deeply implicated in the onset of the Anthropocene.

The criticism levied against this holistic point of view, Paul Raskin argues, is that it posits an undifferentiated "we" which does not exist. On the other hand, however, highlighting diversity can obscure the general form, function, and character of the whole which comprises those various parts; one can lose the forest for the trees—in this case, a singular entity called "human society," which now finds itself entangled in a self-induced existential struggle on one indivisible planet.

Individual agency is nonetheless intimately engaged with this broad-brush picture. The tension between biological imperatives and volitional oversight is common to both macro- and micro-scale behavior, and in that sense, both perspectives are identical. The difference between the two is that individual people generally are reasonable and morally sensible, but large groups are not. Reasoned, morally sound supervision of social behavior diminishes from individual to group, diminishes even further as group size grows larger, and hits bottom with the human population as a whole. The result is that human society on Earth is easily tantalized by simplistic ideas and momentary impulses, easily stampeded into unreflective, emotion-driven behavior which lacks subtlety, sophistication, and direction. Instead of an informed and progressive global polity, it seems more likely that "[t]he masses always incline to herd behavior...and to mob hysteria, hence their witless brutality and emotionalism," and that "[t]he greatest weapon of mass destruction on the planet is the collective human ego."[1] These harsh observations speak both to the reality of Anthropos and to the challenge of making it responsive to individual oversight.

How, then, can agency and "social struggle" be interwoven with the contextual elements of a larger, species-centric story, and to what advantage? Environmentalists (among many others) often speak of "holism" and, with this in mind (but steering clear of New Age mysticism), it seems to me that, in a real but transcendent sense, each person is Anthropos. Each of us is immersed in a natural continuum which implicates the individual with community and with society at large through a nested series of emergent features, all dynamically linked in an evolving whole. Because of this linkage—this union of the one and the many—small-scale local change may (like the butterfly effect) reverberate through to and, conceivably, overwhelm the morally irresponsible worldview now dominating the gestalt of human behavior on Earth.

This may seem far-fetched, but it is worth emphasizing that what we are doing to the planet and to ourselves is a moral problem as much as a practical one. In that sense, ideas (including beliefs, intentions, and ethical propensities) which travel easily and quickly through time and across scales, should play a leading role. The continuum I have described is helpful in this respect because it joins person with society and, more broadly, joins the very primordial stuff of existence with, from a Platonic point of view, "a sentient universe charged with moral meaning," that is, the foundations of moral order implicit in the natural world.[2] And herein lies the key to agency (according to transcendent realism) with respect to the social evolution of a planetary civilization. If true agency begins with, and emanates from, the individual person, and if that person can reasonably be construed as being at one, so to speak, with Anthropos and with an implicate Universe, then "individual action should neither atomize the world nor dissolve each part into the totality...[people should] experience themselves as processes of becoming, actively participating in the becoming of the world."[3] To put this more plainly, the union between subject and context is such that personal efforts to override impulsive, purposeless behavior and instead to become more acutely aware of (perhaps absolute conceptions of) the good, the true, and the beautiful will inevitably promote the social and moral evolution of the Anthropic psyche.

The successful operationalization of these observations—which is to say, the realization of "a new consciousness attuned to our shared planetary fate," as Raskin put it—might usefully begin from purposeful participation in interwoven processes of becoming from which creative social change will emerge. An early burst of human creativity, well-intentioned but morally unsound, has already spawned the Anthropocene epoch and the serious challenges it portends, so our new cosmology will unavoidably feature self-inflicted danger. But the merger of individual agency with Anthropos (and beyond) can afford the opportunity to tame the Promethean animal, and to rejoin our uniquely transcendent endowments to the planet that gave us life. Only having done so will we be able to fully engage the possibility of exploring at our leisure the true and unlimited potential of all that we are, and all that we can be.

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Stephen Purdey is an international relations specialist whose work focuses on the evolution of new forms of global governance to meet current social-ecological challenges. He is the author of such books as *Economic Growth, the Environment and International Relations: The Growth Paradigm*; *The Normative Root of the Climate Change Problem*; and *The Environmental Crisis: Metanarrative and the Moral Evolution of Modern Human Society* (forthcoming). Prior to his academic career, he worked for in the private sector, in Canadian federal politics, and with NGOs such as the United Nations Association, the World Federalists, and the Earth Council. He holds a PhD from the University of Toronto.

Bending the Dramatic Arc

Mimi Stokes

The science of the Anthropocene shares with Drama a focus on the human as actor, asserting that the human actor in living systems has agency on a planetary scale of magnitude to change the structure of the planetary biosphere and affect the Gaian Balance, and has been doing so since the mid-twentieth century.

Consciousness of planetary human agency is critical to the Great Transition to the planetary phase of civilization. Actors in living systems need to believe that we have planetary agency in order to embrace, and commit to, the evolutionary project of creating and designing a planetary civilization. The Anthropocene asserts we have such planetary agency, and in the quantifiable, measurable terms of the dominant epistemological hegemony of Western *Logos* that persists as the epistemology of "truth," even in a post-truth world.

The dramatic question is this: Will we use our awakening powers of planetary human agency to create a tragic Anthropocene of global anguish, systemic suffering, mass failure to thrive, and human perishing from the earth in the worst tragic fall there is, crashing out of the evolutionary drama of life into our own extinction? Or, will we direct our planetary human agency toward creating a eudaimonic Anthropocene of collective joy, thriving well-being, and a great revitalization of human flourishing in a thrivegenic planetary civilization?

One dramatic challenge we have is that consciousness of human agency on a planetary scale awakened by the Anthropocene has emerged in the context of a tragic stage in the long epic drama of human life on earth, when we share a collective tragic fate of human perishing from the earth in a great human extinction. As a result of the synchronicity of the designation of "Anthropocene" with the meta-tragedy of human actors in cultural systems causing human

extinction, the consciousness of human agency on a planetary scale emerging coterminously with the Anthropocene is tragic and fatal planetary human agency.

In this light, Paul Raskin's choice to use the dramatic frame of an epic tragedy fits perfectly. As the bringer of fire to humankind, the tragedy of Prometheus fits the fossil fuel age that is generating the tragic Anthropocene of human perishing. Further, the Capitalocene has rightness of fit for the Tragic Promethean Anthropocene. The Promethean Anthropos who stole the ancient sunlight of solar fire from deep within Gaia is the modern, Western, industrial, colonizing, misogynistic, racist, "apart-from-nature," global, capitalist, fossil-fueled human who is actively creating the tragic Anthropocene of human perishing from the earth.

Cue: Hubris. Hubris has many more dimensions than pride or egotism; one core hubristic quality is blindness, turning a blind eye toward oneself and denying that one is acting tragically. In ancient Greek tragedies, hubristic blindness is the core driver of failure to avert and transcend a tragic fate. In Anthropocene terms, hubristic actors in cultural systems have the terrible, tragiogenic potential to create a tragic Anthropocene of human perishing while denying they are, deluding themselves and others that they are "a god-species," which is textbook hubris.

The vital dramatic point is that "the enemy that is us" is the fatal, catastrophic, tragiogenic, hubristic planetary human actor—not "the" human being. We humans are not inherently tragic actors in life, or "born to be" tragiogenic agents of planetary collapse. For recurring example, indigenes act in, and toward, ecosystems in ways that sustain the mutual thrivability and flourishing of humanity and our habitats, what the late Barry Lopez called the "Valid Wisdom" of indigenes.

The danger of the Anthropocene emerging synchronistically with the science of human-caused, catastrophic climate disruption is that we will believe the false consciousness that humans "are" inherently tragic ecological actors. Glossing over precisely which humans are the agents of extinction makes us vulnerable to mistaking the tragic human actor for "the" human.

To avert the tragic Anthropocene of human perishing, we need to make a clear distinction between the fatal, catastrophic, tragiogenic, blind, hubristic actor in cultural systems and The

Human Being; between tragiogenic Anthropos and thrivegenic, eudaimonic, Anthropos, if you will.

The blind, hubristic, tragic human archetype is only one kind of human actor in life; the enemy that is "us" is only one kind of "us," not all of Us. We, the humans, have the potential to become the other dramatic kind of planetary actor, the comic hero/ine who acts like spring to revitalize and renew the world, and has the planetary agency to create a regenerative Anthropocene of Human Flourishing.

Cue: Dramatic Transcendence.

In archetypal Greek Drama is a theory of dramatic transcendent agency that, for complicated historical reasons, modern Western cultural descendants do not know. Dramatically speaking, "the solution that is us" is reinventing the acts of dramatic transcendence from archetypal Greek Drama for our globally connected era, to transcend the fatal Capitolocene and tragic Promethean Anthropocene of human perishing, and create the thrivegenic, eudaimonic Anthropocene of Human Flourishing.

Valid Wisdom instructs us that the flourishing of ecosystems and cultural systems is interdependent and mutual, making the eudaimonic Anthropocene a salutary Symbiocene of mutually assured thriving of cultures and commons. The "us" and "we" of the Salutary Symbiocene is a global ensemble of human actors who know the acts of dramatic transcendence, and do them, each in our own unique way, as individuals, citizens, leaders, societies, and planetary civilization as a whole.

Which Anthropocene do you want to direct your extraordinary powers of planetary human agency toward creating: the tragic Anthropocene of human perishing, or the eudaimonic Anthropocene and Salutary Symbiocene of a thrivegenic planetary civilization of human flourishing springing up all over a planet held sacred and cared for by all of Us?

That, my fellow GTI actors, is a cue.

About the Author

Mimi Stokes is an award-winning playwright who focuses on the intersection of sustainability and drama. She is a certified practitioner of playback theater, an improvisational community building method in which actors "play back" the real-life experiences of members of a community, dignifying individual emotional truths. She currently is developing The Dran Model, a drama-based theory and practice of cultural evolution and sustainable social change.

Nature's Rights in a Promethean World

Pella Thiel

As eloquently described by Paul Raskin, we find ourselves in a predicament. The Anthropocene and its consequences call on us to focus not just on what we do, but on who we are. Addressing it in any meaningful way is, in other words, an existential issue. If we are to be the solution, we have to abandon the ideology rooted in human supremacy over nature that has made the scale and impact of the human venture so devastating.

Prometheus, the titan, stole the fire from the gods and gave it to humans, whom he loved dearly. Now we have desacralized the world and, with fuel from ancient eras, set it on fire. The name Prometheus means "to think before." The rational capacity of humans is what is most celebrated by the culture that views ancient Greece as its cradle. Rationality is the quality most invoked to justify the ideology of supremacy.

The defining feature of our historic moment is not, however, our taking control of the earth, nor our losing control. The lesson we need to learn now, which is at the heart of a Great Transition, is that we never had any control of the earth, that control is not an appropriate approach to a complex, self-organizing, unpredictable whole. That would create new assumptions, making an Ecozoic era a possibility.[1]

I hope we are not so much waking up to losing control, as opening our eyes to the reality of control as futile hubris. All the ideas of governing and managing a planet are misleading. Building on the ideology of human supremacy and control, we have tried to manage the unmanageable living world with terrible results. If anything, it is time to govern ourselves now, instead of trying to govern everyone and everything else (the seas, the forests, the wild "game").

Even if this is a matter more concerning who we are than what we do, we have to act. There can be no other option than collective self-restraint. So, how do we design for a culture in harmony with nature? Without the idea of control and aware of the risks of growth and efficiency as driving forces?

There is no time to lose. Ideas travel easily and quickly through time and across scales, and should play a leading role. The most powerful idea I know is the simple yet paradigm-shifting and concrete idea of acknowledging that Nature, just as humans, has rights. This idea is perfectly well understood by current legal systems, which are essentially the set of rules the dominant culture operates by. Law is the DNA of society, as South African lawyer Cormac Cullinan has pointed out.[2] Rights of Nature is inspired by, informed by, and to a large extent driven by indigenous peoples, who see it as a bridge between their worldviews and modern institutions. It also has the great advantage that it is already happening all over the world, involving various contexts and actors—from local communities to Superior Courts.[3] Indeed, I have been involved in an effort last year to inspire the Global Biodiversity Framework (the strategic action plan of the anthropocentric Convention on Biological Diversity) to acknowledge that Nature has the right to exist, not just as a resource for humans.[4] The draft of this framework (to be adopted in Kunming, China in 2021) is now the very first international treaty to acknowledge the rights of Nature. We are working to further balance human rights with a Universal Declaration on the Rights of Mother Earth, which has existed in draft form for ten years now.[5]

It is not possible to live in harmony with nature as long as it is legal to destroy it. If Nature has the right to exist, mass damage and destruction of ecosystems, ecocide would be criminal. This idea has also gained a lot of traction last year, with six governments showing interest in it and a high-profile drafting panel recently assembled to provide a draft definition for ecocide as an international crime.[6]

Rights of Nature and Ecocide law are powerful, philosophically sound, and, importantly, feasible ideas. They make the creative force of Nature a starting point for development. They use existing institutions in transformative ways. Of course, all frameworks and institutions are flawed and fragile in these times. However, we need to use the power of the system in order to transform it. I

do not know whether these ideas can make a successor civilization worth the name possible, but I do believe they can support us to live with dignity, even beauty, in a wild world.

Endnotes

1. Thomas Berry, "The Ecozoic Era," E. F. Schumacher Society Lecture, October 1991, https://centerforneweconomics.org/publications/the-ecozoic-era/.

2. Cormac Cullinan, *Wild Law: A Manifesto for Earth Justice* (Cape Town: Siber Ink, 2002).

3. Craig Kauffman and Pamela Martin, "Constructing Rights of Nature Norms in the US, Ecuador, and New Zealand," *Global Environmental Politics* 18, no. 4 (2018).

4. Rights of Nature in CBD, accessed January 5, 2021, https://rightsofnaturecbd.earth/.

5. Pella Thiel, "Time for a Universal Declaration on the Rights of Nature," *Medium*, June 4, 2020, https://medium.com/@pella.thiel/time-for-a-universal-declaration-on-the-rights-of-nature-ad97263a39f4.

6. "Top International Lawyers to Draft Definition of 'Ecocide,'" Stop Ecocide, press release, November 17, 2020, https://www.stopecocide.earth/press-releases-summary/top-international-lawyers-to-draft-definition-of-ecocide.

About the Author

Pella Thiel is an ecologist and the co-founder of the Swedish Transition Network, End Ecocide Sweden (currently chairperson), Save the Rainforest Sweden and the Swedish Network for Rights of Nature (currently coordinator). She serves as one of the experts in the UN Harmony with Nature initiative. She teaches ecopsychology and coordinated the first three Rights of Nature Conferences in Sweden. She holds an MSc in ecology from Stockholm University.

Panel 2:
A Misconceived Narrative

Against Anthropocentrism

Greg Anderson

I would like to thank Paul Raskin for so effectively setting the table for this important discussion. However, I will suggest that the term "Anthropocene" is ultimately self-defeating. Even as it tries to draw attention to a planetary existential crisis, it further normalizes and perpetuates the kind of common sense which has helped to precipitate that crisis in the first place.

As a historian who specializes in the study of non-modern ways of life, I do not see history in conventional modernist terms as the biography of a unitary human species, a story set in a single universal world of experience where a generic Anthropos figure steadily fumbles its way toward modernity. Along with an ever-swelling cohort of indigenous activists, ecological campaigners, and academic theorists, I think it is more historically meaningful to suppose that humans have always lived in a "pluriverse" of many worlds, not in a universe of just one. From this radically altered perspective, history then becomes a loose entanglement of many stories about a multitude of different peoples, each one enacting its own particular model of reality, with its own distinctive way of being human, its own "human nature."

Of course, mainstream modern scientific thought is inclined to dismiss all non-modern models of reality as pure figments of a "primitive imagination," as just "myth" or "folklore." But it is undeniable that innumerable such models have succeeded in practice on their own terms. Together, they have anchored norms and mechanisms which have sustained many millions of real human lives over many millennia without catastrophic damage to the fabrics of the planet. Why is this? Well, in non-modern worlds, humans are never alone. They always coexist with non-human persons, subjects, or agencies of various kinds, actively cooperating, collaborating, and sometimes socializing with them to perpetuate life as they know it.

For some, like the ancient Greeks, ancient Egyptians, and peoples of pre-modern China and India, these non-human co-producers of the world might take the form of superhuman agencies, beings who control and/or embody things like sunshine, rainfall, land, crops, and bodily health that are essential to life's continuity. For others, like so many indigenous peoples of the Americas, most if not all the contents of Creation itself, including phenomena that we consider "abiotic" like rocks and winds, are fully alive as beings or persons, all actively contributing to the shared cause of a good, balanced life in their cosmos, sometimes as relatives or kin of their human counterparts. Whatever the case, being in such worlds is always in some sense relational. Humans know themselves as integral parts of a larger whole. Like everything else, they are mere threads in the symbiotic fabrics of existence. Like everything else, they are effectively made of the relations with all those things which make their lives possible in the first place.

In this as in so many other respects, the bizarre, exotic exception to the historical rule is of course the world of our own European-style modernity, whose conditions of possibility include the colonialist domination and/or elimination of non-Europeans, the enslavement of non-white peoples, the Scientific Revolution, and the Enlightenment.

Our novel capitalist way of life is anchored by a model of reality where being is not relational but fundamentally individuated, a function of the innate properties of all the countless discrete self-actualizing entities, human and non-human, which occupy space in our universe. Within this modern model, individuals of the human species are the only possible subjects, since Anthropos alone is innately endowed with personhood, reason, and agency. The world thus inevitably resolves into two distinct orders: a higher human order of "culture," which monopolizes subjectivity and agency, and a lower non-human order of "nature," which contains merely impersonal objects and subject-less processes, a mere "environment" of passive exploitable "resources." And these twin metaphysical commitments to anthropocentrism and individualism duly make possible our model's peculiar "objective" way of apprehending experience, whereby the solipsistic Anthropos presumes to know the world like a god, as if from outside, from everywhere at once and nowhere in particular.

This historically bizarre model of reality has been realized in experience through our life-sustaining practices for just a few hundred years, but the results are already pretty plain to see.

To name just a few: genocides and ethnocides across entire continents; the dehumanization of innumerable slaves and industrial helots; two devastating world wars; the Holocaust; the use of nuclear weapons; epidemics of mental illness and drug addiction; species extinctions; environmental degradation of all kinds; and, of course, global warming. In relatively short order, we find ourselves in a time of planetary existential crisis that some call the Anthropocene.

So why not call it the Anthropocene? Because by suggesting that Anthropos is directly harming "nature," the term perpetuates our anthropocentrist commitment to a world that is forever divided between an order of active human subjects and one of passive non-human objects, the very commitment that helped make this crisis possible in the first place. After all, phenomena like global warming and rising sea levels are not unilaterally "caused" by humans. They are outcomes of complex interactions between human practices and the life processes of the planet.

It is far more productive to see the crisis from an alternative, pluriversal perspective, one that draws on bodies of knowledge which have informed the enactment of so many successful non-modern models of reality. This uncommon sense would allow us to see our world otherwise as a unitary system of life, one where humans are fully integrated into the fabrics of being, where non-humans express forms of agency and subjectivity, and where all things are defined and shaped by their symbiotic interrelations with others.

We would then see our current crisis through new eyes, as a complete breakdown in reciprocity between human and non-human relatives, as a life-threatening imbalance that urgently needs to be corrected. And we would see Anthropos as history's most delusional and disruptive way of being human. If new practices can be devised which enact more relational, non-modern-style models of reality, this grotesquely deviant form of humanity will hopefully wither away, along with its systemic racism, its capitalist economics, its individualist politics and sociality, and its dangerously self-serving "objective" knowledge.

About the Author

Greg Anderson is Professor of History at Ohio State University. His teaching and research combine interests in historical thought and practice, contemporary critical theory, and the experiences of non-modern peoples. His recent work, such as *The Realness of Things Past: Ancient Greece and Ontological History*, makes the case for an "ontological turn" in historical practice, arguing on ethical, philosophical, and historical grounds that we need to analyze every historical lifeworld on its own ontological terms, in effect as a world unto itself. He holds a PhD in classics from Yale University.

Technofix and Armageddon

Jeremy Baskin

I enjoyed reading Paul Raskin's beautifully written opener and the many thoughtful responses to it. I will limit myself to sharing two thoughts here.

My starting point is that the "Anthropocene" is not a fact, it is a paradigm. Global warming is a fact. Accelerating rates of species extinction is a fact. Deforestation is a fact. The Anthropocene is not a fact, not even amongst geologists where there is substantial opposition to the term's adoption. Rather, the Anthropocene is a lens, a way of seeing. As with all lenses, we must ask if it helps us see and understand the world better, if it reveals more than it conceals.

I can understand the attraction of the term for those in earth system sciences, for example, where the limitations of adopting a purely physical view of the workings of the earth have become increasingly apparent in recent decades. The recognition that climate change today is largely anthropogenic and that there is a need to incorporate an "anthroposphere" (so to speak) when modeling the cryosphere, atmosphere, or hydrosphere and their interactions, is undoubtedly important, and perhaps the Anthropocene has been helpful. But here we are interested in the usefulness of the concept in helping to understand, as Raskin puts it, "who we are, where we are going, and how we must act." In this, I am more skeptical that the Anthropocene paradigm/concept has much to add.

At its most useful, the term is used as shorthand for recognizing the role of humans in the workings of the earth system and the ecological devastation and planetary overshoot which are features of the world today, and in urging us to "think together" human activities and the more-than-human world and understand these as linked systems. But this is not an especially novel insight. Further, this *observational* aspect of the concept (describing the magnitude of

human influence) is typically attached to a range of *explanations* as to how this situation came to pass (capitalism, industrialization, agriculture, human nature, some humans but not all, etc.), and manifold *prescriptions* (both hubristic and humble) about what should be done. The range of explanations and *prescriptions*, even as many are plausible in their own terms, acts to empty the larger concept of meaning. At best, we are left with an injunction to think together the human and more-than-human worlds. At worst, we have, in the term, too capacious a conceptual umbrella to be analytically useful.

My second thought on Raskin's opener relates to his identification of three options as dead-ends: "hubristic techno-fix, voluntary simplicity, and ecological Armageddon," and his call to "transcend modernity, not re-engineer it, shrink from it, or succumb to it," as he so elegantly puts it. For me, voluntary simplicity sits uncomfortably here: I would not dismiss it so quickly (although perhaps the "voluntary" aspect needs interrogating). Nor would I dismiss degrowth as "wishful thinking," even as I am not naïve about the difficulties in making this objective reality.

But the point I wanted to make here concerns the other two dead-end options. The techno-fix crowd argue that their interventions are necessary to avoid ecological Armageddon. The Anthropocene concept is sometimes recruited in support of this eco-modernist claim. But what if technofix and Armageddon are not options but conjoined twins? What if our current trajectory has us heading *towards* both hubristic techno-fix and ecological Armageddon, not explicitly nor as a stated objective of course, but both together in the name of development and modernity? Would such a troubling path, where "nature is us" as some have put it, be reconcilable with at least some version of an Anthropocenist view? I suspect, worryingly, that it would be, and that this is where the rich and powerful in today's world are taking us. Perhaps there are two options—Technologies of Hubris + Armageddon on the one hand and ??? on the other?

About the Author

Jeremy Baskin is Senior Fellow at the Melbourne School of Government and the joint coordinator of a cross-faculty network of Science, Technology & Society scholars at the University of Melbourne. His research focuses on the legitimacy and accountability of knowledge experts in policymaking; climate and energy policy; the notion of the Anthropocene; labor market policy; and changing understandings of the authority of science. His most recent book is titled *Geoengineering, the Anthropocene and the End of Nature*. He hails from South Africa, where he was intimately involved in the anti-apartheid resistance and post-apartheid reconstruction. He is currently working on a PhD at the Australian National University looking at "expert advice and the Covid pandemic."

Transcending Modernity

Arturo Escobar

I take Paul Raskin's discussion of the strengths and limitations of the concept of the Anthropocene, particularly the "dissonances" between the Anthropocene and the GT, as a point of departure to make two arguments. The first is that the current multifaceted civilizational crisis, of which climate change is one of the most momentous manifestations, makes any modern theoretical framing inescapably incomplete, which has revealing implications for how we respond to it. This point has been insightfully made by Nigerian psychologist and cultural theorist Bayo Akomolafe, co-curator of The Emergence Network.[1] The second is that, placed next to the Anthropocene or the Planetary Phase, the concept of "terracide," as formulated a few years ago by the South American Movement of Indigenous Women for Buen Vivir, offers an alternative framing that can better convey the sense of crisis and illuminate paths forward.[2]

For Akomolafe, climate change is not a problem that organizations can draw lines around and manage because it is "ontologically unframeable, unthinkable and incalculable."[2] Akomolafe proposes thinking of climate change as an unprecedented event, an advent, of the same kind as the advent of life on the planet and the advent of the human. For him, the banishment of the sacred from the domain of life—referring to the sacredness harbored in all forms of life—has had a severely negative impact on our thought. Trapped within an enduring "theology of separation" (most pertinently that between humans and nonhumans), solutions to climate change under the banner of the Anthropocene cannot but lead us in managerial and technoscientific directions, for they squeeze action into "an operational framework of achievable goals, prompts and objectives," whether turning off your light bulbs or the Green New Deal.

Akomolafe likewise calls into question any universal idea of "Man," "[a]s if the word 'human' is a self-evident category that is not already simmering with tensions, elisions, disputations, and

troubling departures." Jamaican decolonial philosopher Sylvia Wynter describes this limited view of man as constituting a mono-humanist model of the human, anchored in the figure of homo economicus and naturalized Darwinian narratives of evolution and competition; this bioeconomic genre of Man originated in Europe during the second half of the nineteenth century and embodies a Western, bourgeois, liberal, and secular human, tied to the notion of race and functional to capital accumulation. The concept of terracide—"the killing of tangible ecosystems, the spiritual ecosystem, and that of the pueblos (peoples) and all forms of life"—brings forth the need to question anew this figure of Man, summoning us to go beyond the categories with which we currently seek to understand, act in, and remake the world.[3]

The contemporary crisis makes clear that we can no longer solve modern problems solely, or perhaps even primarily, with the same categories that created them–growth, competition, progress, rationality, individuality, economy, even science and critique, no matter how much we tweak them. Transitioning into new modes of existence requires different categories and modes of understanding. As the courageous and brilliant Mapuche activist Moira Milllán, co-founder of the Indigenous Women's Movement for Buen Vivir, put it recently, we need a revolution in our thought.[4] The conclusion she arrives at is no less instructive: that our current thinking is at its foundation terracidal.

Modern social theory is limited in how it can deal with the crisis as a civilizational event in three ways. First, it is abstract, which means it leaves out the realm of embodiment, practice, and experience, essential to understand the relational making of the world. Second, it forgets that the question of the human takes different forms for differently located and embodied humans, especially for those subjected to the symbolic and bodily violence associated with Universal Man, such as colonized peoples. Consequently, third, modern thought evinces a certain blindness to its historical place within the regime of Man, most poignantly brought into view by the question of whose idea of the human we are talking about.

That something that exceeds all frameworks is none other than Life itself, in all of its relational mystery and complexity. Its containment within the neat categories making up the Western episteme has proven lethal. One can cite in the West's favor the astonishing levels of material

and social progress its science and ideas have enabled, yet Akomolafe's indictment remains: that "Man" is being called into question by something much greater than ourselves. We can find this critique being made in many indigenous, feminist, and ethnic minority activist spaces. For the women struggling against terracide, this can only be heeded by seeing ourselves deeply as belonging to the Earth and to the stream of life, as territorialized peoples have done for thousands of years. This starting point diverges from most academic theorizing; it provides us with a direct route into the space where relationality abides.[5]

To the central questions of whether the Anthropocene adequately captures our global predicament and whether it offers a useful framework for guiding collective action, I would respond no on both counts. The term effaces much of human history; it relies on abstract modes of thought that leave out much that is relevant to understanding Life, from feelings and emotions to marked bodies, spirituality, and the sacred; and, finally, as Paul Raskin asserts, it does not fulfill the need for "a larger story that anchors the shift in planetary history in the shift underway in human history." Despite its shortcomings, the Anthropocene is no doubt an intellectually and politically important concept; at the same time, it falls short in relation to the need to "unfold along different civilizational trajectories" and finally "transcend modernity" instead of re-engineering it.

Endnotes

1. See www.emergencenetwork.org/.

2. Bayo Amolafe, "Coming Down to Earth: Sanctuary as Spiritual Companionship in a Time of Hopelessness and Climate Chaos," 2020, https://bayoakomolafe.net/project/coming-down-to-earth-sanctuary-as-spiritual-companionship-in-a-time-of-hopelessness-and-climate-chaos/; see also "What Climate Collapse Asks of Us," 2019, https://bayoakomolafe.net/project/what-climate-collapse-asks-of-us/; both accessed January 4, 2021.

3. See "Participó Vutá Trawn: conformaron Movimiento contra el 'terricidio,'" *Plan B*, February 15, 2020, www.planbnoticias.com.ar/index.php/2020/02/15/participo-wuta-trawn-conformaron-movimiento-contra-el-terricidio/. There are plenty of sources on terricide on the net in Spanish, a few in English.

4. "Moira Millán y el Buen Vivir originario," May 22, 2016, accessed January 4, 2021, https://www.youtube.com/watch?v=JOiRYUW8R08.

5. There are many partial exceptions, of course, such as Lynn Margulis, who came to describe Life a "sentient symphony...matter gone wild...Life is consciousness and even self-consciousness." Some of the current ontologically oriented work problematizing the human/nonhuman divide is moving in this direction, such as the work on trees, forests, fungi, and rivers as sentient beings. See Lynn Margulis and Dorion Sagan, *What Is Life?* (Berkeley: University of California Press, 1995), 213.

About the Author

Arturo Escobar is the Kenan Professor of Anthropology at the University of North Carolina, Chapel Hill, and a Research Associate with the Culture, Memory, and Nation group at Universidad del Valle, Cali. His research interests include political ecology; ontological design; and the anthropology of development, social movements, and technoscience. Over the past twenty-five years, he has worked closely with several Afro-Colombian social movements, particularly the Process of Black Communities (PCN). He is author of such books as *Encountering Development: The Making and Unmaking of the Third World*; *Territories of Difference: Place, Movements, Life, Redes*; and *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. He holds a PhD from the University of California, Berkeley.

Violence: Another Existential Crisis

Richard Falk

As I grasp the essence of the consensus emerging from this discussion of Paul Raskin's eloquent essay, it is an acceptance of the Anthropocene as a dire warning that the human species is headed for disaster, if not extinction, if its ecological footprint is not greatly reduced in the relatively near future. The GTI perspective adds the indispensable insight that social evolution has many pathways to the future that can be instructively framed as a dramatic narrative enacted as a struggle between forces sustaining the destructive perishing patterns of the currently dominant modernist variants of civilization and those intent on achieving a variety of alternative civilizational constellations that incorporate what Paul calls for at the end of his conjectures: "expanded identity, solidarity, and citizenship." It is fair to assume that these enlargements move civilizational vectors toward greater appreciations of species destiny along with possibilities of nurturing satisfaction with the experience of human community on a global scale. Such futures imply living with a new contentment based on underlying commonalities while at the same time valuing gender, societal, ethnic, and generational differences and overcoming past abuses.

I regard the GTI community as an ideational vanguard that is carrying forward the work of restorative vision with respect to the organically connected ecological and societal challenges. The hopeful ontological premise is the existence of reservoirs of species potential to turn the negative impacts of human geological agency, which mostly explains the designation of our time as the Anthropocene, into positive forms of social behavior that incorporate ecological and humanistic ethics in ways capable of actualizing variants of the GTI project.

There is also the baffling question of transcendence, which opens the portals of freedom and discovery by uniquely privileging and burdening the human species with freedom, and hence

with responsibility to do the right thing. Individually and collectively, we can learn to see properly, and when we do, we have the freedom and responsibility to struggle for a better, and perhaps radically different, future. In this spirit, should the primary endeavor be to redesign capitalist dynamics to avoid destructive ecological effects and mitigate alienating and exploitative impacts on social relations, or should our ways of producing, consuming, and living be reframed to conform more closely to imaginaries of human flourishing? Due to the limited time to avoid irreversible or catastrophic damage, should GTI efforts prioritize "buying time" by settling for modest adjustments, assuming more fundamental change can emerge over longer periods? There exists a "Hegelian Trap" whereby an envisaged future gets confused with an attainable future. The teaching of the Anthropocene is that major ecological adjustments must be made soon—with the crucial sociological feedback being that the looming tragedy is not attributable to the human condition, but rather reflects a civilizational turn, sometimes associated with the turn from hunter-gathering civilizational ascendancy to agriculture and specialization, and reaching its climax by way of "modernity" as emanating from the Industrial Revolution.

Against this background, I find it useful to highlight the role of war, violence, and identity as carried to clarifying extremes by the United States. The US is the world's leading source of arms sales, maintains black sites in foreign countries used to torture terrorist suspects, manages one of the largest per capita prison populations in the world, possesses the world's only constitutionally grounded gun culture, and yet is less secure than ever before in its history. And to underscore this disturbing pattern, the most revered advocate of nonviolent struggle in the United States, Martin Luther King, Jr., was assassinated in 1968.

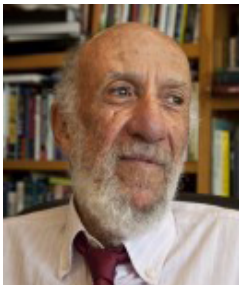
My sense of the socioeconomic side of predatory capitalism and ecological denialism is this pervasive delusion that weaponry and violence bring "security" to individuals, neighbors, and countries. Even the alarm bells set off by the use of atomic bombs in 1945 did not overcome the deeply entrenched roots of militarism at all levels of social interaction from gun culture to nuclear arsenals. With the passage of time, the possession of nuclear weapons was normalized for the states that prevailed in World War II, and global policy focused on keeping the weaponry away from other states by establishing an anti-proliferation regime, a system of nuclear apartheid that reflects the latest phase of geopolitical primacy as the fallacious basis of stability in world affairs. There are two points interwoven here: the pervasiveness of violence in human experience and the degree to which a nuclear war could

parallel eco-catastrophe, threatening the Gaia Equilibrium that led stratigraphers to pronounce our geological age as the Anthropocene.

When we consider the sorts of human futures that would transcend the maladies of the present historical circumstances, we cannot get very far without a radical turn against individual and collective forms of violence and warfare. It is relevant to take note of the degree to which violence in every shape and form infuses even entertainment in many civilizational spaces, including even most indigenous communities. China is far from nonviolent, yet its remarkable surge, overcoming the extreme poverty of at least 300,000,000 million Chinese, as well as its expansionist vision of the vast Belt and Road Initiative seems a better platform from which to hope for benign civilizational transcendence.

As earlier observed, there are also obstacles associated with the civilizational modalities that presently control the basic categories of time and space. There is a mismatch between the time horizons of ecological, economic, and security challenges and electoral cycles of accountability. Political, corporate, and financial leaders are viewed by their short-term performance records, and thus tend to under-react to medium- and longer-term threats. In relation to space, the vast differences in wealth and capabilities among states and regions produces inequalities perceived as unjust, and need to be defended and justified by ideologies that fragment of human identity and community. In terms of world order, the whole is less than the sum of its parts, and until that ratio can be inverted, Paul Raskin's imperative of expanded identity, solidarity, and citizenship will fall mostly on deaf ears. We live in a world in which the part is valued more than the whole, and such a political order might have persisted in a pre-Anthropocene worldview, but is now in deep jeopardy.

About the Author



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The Early Roots of a Modern Crisis

Lisi Krall

This is our challenge: to move a world of almost 8 billion people, most involved in an economic system with tremendous inequality, a clear imperative to expand, and a chronic tendency to stagnate, toward some real rapprochement with earth. This is a monumental challenge. If nothing else, the Anthropocene idea is the truth of the moment encapsulated as a geological epoch. Yet it explains little of the cause.

The question is how to explore social evolution in order to give insight appropriate to the historical moment. Engage for a moment in an exercise to reveal the complexity of social evolution. Begin with what we know about exponential growth—that it starts out slowly and finishes very rapidly. We are on the upper neck of an exponential flight but the structure and dynamic of this trajectory were in place long before the twentieth century and even long before the present world system (capitalism) took hold. We have to ask ourselves where we mark the inflection point where we entered this present phase of our social evolution. It is important to go beyond the Capitalocene if we are to understand how we ultimately landed where we are.

Let me offer two stylized economic systems in order to highlight something about the complexity of our social evolution as it pertains to this matter. The first is a hunting-and-gathering economic system where homo sapiens lived as minimalists, surplus did not exist, feedback loops prevented expansion, and humans were mostly independent and self-reliant (most could quite literally fend for themselves). Each human had an expansive knowledge of the more-than-human world, and they used that knowledge to garner their material necessities (food, shelter, clothing). One can argue that it was an economic system embedded in the rhythm and dynamic of the more-than-human world and did not have feedback loops of expansion.

Juxtapose this with a second stylized system—call it global capitalism. In this system, humans are not minimalists; they are existentially interdependent (think about assembly line work, global supply chains, and global markets) and are involved in a system dynamic that is expansionary, where surplus takes the form of profit and feeds an endless process of capital accumulation, exploitation, and crisis. There exists a very real duality between this economic system and the more-than-human world that is so pronounced that the economy literally functions as if it is a supra-material system (a system disconnected from earth).

It is not a change in the DNA of homo sapiens that delineates these two entirely distinct systems. The exercise of comparing them highlights the fact that humans are contextual, and so too is their relationship to the more-than-human world. This is a foundational aspect of human social evolution. Context is defined within an economic system. We did not move directly from hunting and gathering to global capitalism, and a cursory look at history reveals that we didn't have some ideal copasetic relationship with the more-than-human world before the present world system took hold.

If we look at population dynamics and the incidence of ecological collapse, it is clear that the cultivation of annual grains, and the civilizations that rose and fell as a result, mark an inflection point. The transition from hunting and gathering to grain agriculture was a monumental change in our social/economic evolution where the structure and dynamic of economic life became something distinctively different.[1] Our economic trajectory was recalibrated with this transition, and so too was our relationship to the more-than-human world. Surplus and expansion; hierarchy; profound material interdependence around the focal point of grain production; and powerful feedback loops between population, grain (energy) production, and division of labor created a structural duality between humans and earth embodied in the agricultural system. The cultivation of grains was not simply a change in the way we secured food but was an entirely distinct economic trajectory, an alteration in our social evolution where the economic system became self-referential and expansionary—a distinct whole.

The changes in economic order ushered in by capitalism were a matter of degree but not of kind. Capitalism changed the form of surplus and expansion but not the fact of their existence; it altered human-to-human relationships but did not change the fact of enhanced material

interdependence (nor the presence of hierarchy); it drove the wedge of duality between humans and the more-than-human world ever deeper but did not create that duality. An economic inclination established with grain agriculture takes an exaggerated form with capitalism and is magnified further when capitalism is married to fossil fuel. Our economic system is quite literally both a supra-material system (functioning as if it is removed from Earth) and a profoundly earthly matter as our crossing of planetary boundaries demonstrates. From the perspective of social evolution, it is fair to say that capitalism is a system within a system. It is the legacy and apogee of a system change that took hold beginning some 10,000 years ago.[2]

We do need a story rooted in social evolution, but unfortunately, there is a complexity that does not relieve us of the problem of seemingly inevitable consequences (determinism), nor an inclination toward techno-fixes, nor grappling with the nagging problem of the necessity of limits and simplicity. In fact, the long arc of social evolution (one that takes us beyond the Capitalocene) leaves us to ponder whether we humans can alter this long-lived system dynamic. It appears that our cultural and institutional inclinations have been accommodating to the impulse established when we made the transition to grain agriculture. Certainly, it is easy to imagine capitalism as a particular institutional variant of surplus and expansion that began with grain agriculture.[3]

If we take social evolution where it leads, we might entertain the notion that the economic superorganism might be considered a distinct whole in the matrix of our social evolution. Here social evolution takes on a significance that matches the idea of the Anthropocene as a geological epoch. Perhaps more importantly, the idea of the economic superorganism expresses a deeply rooted materialism that is sure to make us uncomfortable because it conjures up determinism. This necessarily leads us to ask this question: Can we change the trajectory of our social evolution now embodied in the present variant of the economic superorganism? We are moved by this question from hubris to humility.

It is inadequate to approach the war between economy and earth solely as a subset of the accumulation of capital and its problem of inequality and exploitation. If we do that, our quest for equality will draw the lines of what is possible ecologically, and we will end up with some

vaguely sustainable socialism. That is better than unsustainable capitalism, but we must ask ourselves whether there is real rapprochement with earth in this.

If we are to stop ourselves from crossing a great divide where we lose our now precarious foothold on an earth once abundant with more-than-human life and more-than-human impulses, we must focus on the necessity of limits, the downsizing of the human presence on earth. In short, we are forced to contend with the cumulative impact of humans on earth that began with grain agriculture. We are forced to think more clearly about what it means to take our place as one of many species that inhabit the earth. This focus will expand our strategies for enhancing human well-being to include, for example, the necessities of conservation of the wild and the downsizing of the human population.

Endnotes

1. John Gowdy and Lisi Krall, "The Ultrasocial Origins of the Anthropocene," *Ecological Economics* 9 (2013): 137–147.

2. Lisi Krall, *The Economic legacy of the Holocene. The Ecological Citizen* 2 (2018): 67–76.

3. Lisi Krall, *The Great Divide* (book manuscript in progress).

About the Author

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Living in the Capitalocene

Fred Magdoff

Following World War II, there was a "Great Acceleration" in global economic activities as countries recovered from the war and globalization went through a new wave, rapidly increasing fossil fuel use, production of plastics, concrete, pesticides, fertilizers, farm animals, large dam construction, etc. This was also the era of nuclear explosions that leave clear radioactive signatures in soils and sediments. In May 2019, the vast majority of the interdisciplinary group tasked with studying the Anthropocene as a geologic time—part of the Submission on Quaternary Stratigraphy of the International Commission on Stratigraphy—voted that a new epoch began in the mid-twentieth century, with a global ecological crisis large enough to leave a distinct signature in the geological record.

This earth system crisis (the massive unrelenting biological and geochemical transformation of the planet) and the social "crisis of civilization" are two sides of a single coin. Their origin is an economic system that has as its only purpose the private production of goods to be sold to make a profit. It is this understanding that provides, to quote Paul Raskin's opening piece, "a conceptual framework retaining the Anthropocene's ecological truths while avoiding its historical fallacies."

Capitalism is not an abstract economic system. It is an institutionalized social structure based on a concrete economic system which has internal compulsions and drives and consequences. And it is from this system of capital that the following flow:

(a) the "growth imperative," the need for firms to grow and compete for market share, and the need for the economy to be "healthy" (otherwise it's in crisis and people suffer);

(b) the production of larger and larger volumes of stuff;

(c) the discharge of numerous toxins into the environment as part of the process of production (and disposal) while causing other forms of environmental damage (greenhouse gas emissions, mountain top removal for coal production, nutrient pollution of ground and surface water, loss of biodiversity, and on and on.);

(d) the marshaling of a vast sales effort to convince people to purchase more stuff;

(e) the production of massive waste (overconsumption by the wealthy, the military-industrial complex, the prison-industrial complex, a bloated bureaucracy, etc.) to the extent that it may represent half of the economic production;

(f) the formation of oligopolies and monopolies, able to exert market power;

(g) the accumulation of such vast quantities of capital that it cannot be "productively" employed in the economy of goods and services, leading development of its outlet in the many ways that financialization makes possible, turning money into more money without providing an intermediate good or service;

(h) the amassing of political power by the wealthy in order to increase their riches, harming many people and allowing environmental damage to grow ever larger;

(i) a massive transfer of wealth from the working and middle classes to the pockets of the 1%; and finally, but by no means least important,[1]

(j) no internal mechanism or reason to rationally regulate the interaction between production and the broader environment.

A different social structure is called for, one that is based on an economic system in which there is a social purpose for production—to provide everyone with what is needed, as socially defined, for a good life (buen vivir) to allow all to develop their full potential; social control of the workplace and the broader economy; and democratic decision-making.

Production with the purpose of fulfilling human needs (instead of private profits) would incorporate the rational regulation of the human interaction with the broader environment because decisions would be made with the purpose of providing a good life for all people. And a healthy ecosystem and local ecologies—with clean air, water, and soil; plentiful biodiversity; healthy cycles and flows; and a relatively stable climate—are important basic needs of humanity and the many other species we interact with and depend upon.

Endnotes

1. This has amounted to $50 trillion over the past 45 years in the US; indeed, "[t]hanks to the proliferation of trickle-down policies like tax cuts, wage suppression, and stock-market deregulation, 90% of all Americans are demonstrably worse off financially than they were 45 years ago." See Paul Constant, "The Wealthiest 1% Has Taken $50 Trillion from Working Americans and Redistributed It, A New Study Finds. Here's What That Means," *Business Insider*, September 18, 2020, https://www.businessinsider.com/wealthiest-1-percent-stole-50-trillion-working-americans-what-means-2020-9; see also the Rand Corporation report Carter Price and Kathryn Edwards, *Trends in Income From 1975 to 2018* (Washington, DC: Rand Corporation, 2020), www.rand.org/pubs/working_papers/WRA516-1.html.

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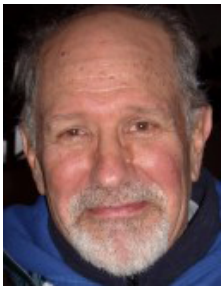

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Resisting an Authoritarian Paradigm

Karl-Ludwig Schibel

The discussion on "interrogating the Anthropocene," starting from Paul Raskin's elegant essay has been stimulating. But it has not yet brought to light any ways the unfortunate concept can aid in the debate on the forces and dynamics at play in a Great Transition. While the Great Transition looks at a very real crisis of civilization, the Anthropocene is a "crisis of the Earth system," which swiftly leads to some authoritarian—even totalitarian—conclusions.

In 2009, Johan Rockström and his colleagues introduced the concept of "planetary boundaries," natural thresholds from ocean acidification to climate change which humanity is increasingly transgressing. For Rockström, humanity can only thrive if it stays within a "safe operating space," defined for each subsystem of the earth system. From a fairly neutral concept, based on scientific data to be verified or falsified, "safe operating space" quickly transforms into a call for "earth system governance," justified by "non-negotiable ecological imperatives" that allow "no compromise." In such a vision of authoritarian environmentalism, man must take over "the control variables of the earth" for a "planetary management." From there, it is not far to the eco-totalitarian dream of James Lovelock, who would put democracy "on hold" to allow an authoritarian, top-down transition to a new state of sustainable equilibrium on the planet.[1]

The Anthropocene was introduced by biologist Eugene Stoermer in the 1980s and popularized by him and Paul Crutzen in 2000.[2] The concept gives color to the idea of mankind as a "planet-transforming colossus" (to quote Raskin), perpetuating the false Promethean image that attributes all modifications of climate, ocean chemistry, the cryosphere, the nitrogen cycle, and biodiversity to human intervention. Yes, man-made transformations make life more difficult for

for many species, but would even their worldwide extinction mark the beginning of a new geological epoch?

Couldn't decisions on how to label the present period of earth history be left to a 2521 joint-meeting of The International Union of Geological Sciences and The International Commission on Stratigraphy? The Precambrian era occupied more than four billion years, the Paleozoic lasted more than 300 million years, and the Mesozoic just under 200 million years. Today's Cenozoic geological era is only 66 million years old, and its most recent period, the Holocene, is a mere 11,700 years and begins with exaggerated anthropocentric visions of the great role of mankind on this planet. Only a few decades old, the Anthropocene makes things worse by hiding more than it reveals regarding the nature of Earth's transformation at human hands.

The Anthropocene paradigm originates in the same hubris that created the ecological crisis in the first place. Mankind is really concerned about destruction of the natural foundation for one species, homo sapiens sapiens. If the threat were not that direct, the debate on the depth and reach of man's intervention into nature would interest only a small public of environmentalists and scientists. If mankind continues its course to the point of self-extinction, the impact humans have had on planet earth will be invisible after a short time in the planet's life. Our few scratches will overgrow in some hundreds of thousands of years. Nothing to worry about...if not for the fact there would be nobody around anymore to worry. To be sure, the ecological crisis has opened a new chapter in human history. But how it affects the history of the Earth—we must leave that to future generations to discover.

So, we are back where we started: Planet Earth is doing fine, and nature is doing…okay. That is, in fact, a reason to be worried. Will the course towards self-extinction be viewed as unacceptable on moral grounds, as philosopher Hans Jonas argued at great length?[3] The Anthropocene narrative leads along the wrong path, remaining caught in—or, even worse, glorifying—the idea of man's domination over nature. But, as Murray Bookchin and others have argued extensively, Man does not dominate nature. The COVID pandemic has put this into sharp view. The drive to grow and to dominate is not "etched into the genetic make-up of our species"; it is a social construct rampant in large parts of the world. The destructive consequences of man's intervention into nature are

not the result of domination, but of hubris, ignorance, and blunder, and there is no indication whatsoever of a possibility for future global interventions to repair the damages done and create ecological earth system control and management systems.

It is hard to see how the paradigm of the "Anthropocene" will contribute in any way to the endeavor of envisioning and building a decent future. However, the eco-technocratic authoritarian-totalitarian uses of the paradigm are obvious and possibly imminent. To "create a society that elicits and nurtures the better angels of our collective nature," to quote Paul Raskin, continues to be a political and practical task—in our work and in our lives.

Endnotes

1. Johan Rockström et al., "Planetary Boundaries: Exploring the Safe Operating Space for Humanity," *Ecology and Society* 14, no. 2 (2009), http://www.ecologyandsociety.org/vol14/iss2/art32/main.html; James Lovelock, *A Rough Ride to the Future* (New York: Overlook Press, 2014).

2. Paul J. Crutzen and Eugene F. Stoermer, "The 'Anthropocene,'" International Geosphere-Biopshere Programme (IGBP) Newsletter, 2000, reprinted in "Have We Entered the 'Anthropocene'?," International Geosphere-Biopshere Programme, October 31, 2020, http://www.igbp.net/news/opinion/opinion/haveweenteredtheanthropocene.5.d8b4c3c12bf3be638a8000578.html.

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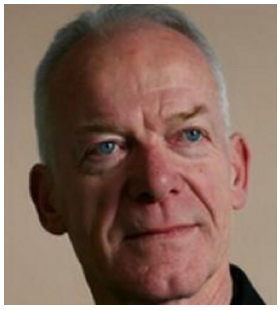

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Reasserting Radical Politics

Erik Swyngedouw

The controversies over the Anthropocene by both natural scientists searching to identify a globally identifying stratigraphic signal to establish its date of birth and assorted social scientists, humanities scholars, and artists arguing over the wider meaning and implications of this allegedly new geological era seem to suggest that the inauguration of the Anthropocene indeed harbors the potential—if properly thought through and acted upon— to launch "humanity" onto a new—possibly more benevolent—future trajectory. Paul Raskin's essay already points out the fallacies of assuming that the debate over the substantive content of the term promises to open a new terrain that might permit embarking on a truly humanizing planetary transition. In fact, the very cacophony of voices and opinions reveal emptiness at the core of the "Anthropocene" signifier. The very dispute over the social, scientific, or environmental meaning of the notion of the Anthropocene covers up or disavows what is really at stake, i.e., an intense political conflict and struggle over the future trajectory of planetary socio-ecological change. If indeed the debate over "the Anthropocene" points to a further depoliticization of the existing socio-ecological order, perhaps the term should be abandoned altogether or left to the musing of the geophysical academic profession.[1]

As Paul Raskin's essay indicates, an intense conflict is already under way (and has been for a long time) over how to organize future socio-ecological life—and in whose interests. Put simply, there are those who, by all means possible, want to make sure that the present capitalist-liberal socio-ecological order, with its "mad dance of accumulation" and deepening socio-ecological inequalities, will continue for a while longer. And they insist on a fantasy that eco-technological adjustments and innovations, minor institutional reconfigurations, and a more reflexive socio-environmental management can procure the continuation of "civilization" as we know it. On the other hand, there are those who insist that only a profound transformation of the dominant

socio-ecological relations can inaugurate a more socially inclusive and ecologically sensible world. This view gathers all manner of social and political actors, ranging from those who insist on a new imaginary of what "humanity" is all about to those who argue that aligning the commons of the earth with a common humanity requires abolishing the private ownership of nature and the commodification of everything, and establishing the common democratic management of the commons of the earth.

Although this sounds very much like the "old" political right-left divide, I maintain that this struggle will continue to shape the contours of our terrestrial existence in the future. Asserting the "political," therefore, and outlining the dividing lines as they crystallize remains paramount. Foregrounding the political as a key terrain implies, among others, the transformation and re-symbolization of the imaginary upon which the need and urgency of environmental action is legitimized and sustained. The hegemonic and symptomatic base upon which the urgency of the environmental discourse and practice is predicated rests upon two repressed traumas, both of which are displaced onto a phantasmagorical imaginary. Opening up different future political-ecological trajectories requires transgressing the fantasy that conceals these traumas.

First, the environmental emergency is articulated around the insistent construction of a dystopian, quasi-catastrophic future if no urgent and appropriate action is taken. This argument sustains the view that it is not too late yet, that the forecasted future can still be changed or averted if appropriate and determined action is taken, if a Great Transition is inaugurated. However, many people around the world already live the socio-ecological apocalypse, demonstrated by the large numbers of climate refugees and mounting socio-ecological problems in the poorest parts of the world. While the elites nurture an apocalyptic dystopia that can nonetheless be avoided (for them), the majority of the world already lives "within the collapse of civilization."

Sustaining and nurturing catastrophic imageries are an integral and vital part of the new cultural politics of capitalism for which the management of fear is a central leitmotif and provides part of the cultural support for a process of environmental-populist post-politicization.[2] At the symbolic level, apocalyptic imaginaries are extraordinarily powerful in disavowing or foreclosing social conflict and antagonisms. In other words, the presentation of environmental change as a global

and universal humanitarian cause produces a thoroughly depoliticized imaginary, one that neither revolves around choosing one trajectory rather than another, nor identifies clear adversaries. It is an imaginary without specific political programs or socio-ecological projects or transformations.

Transgressing this fantasy cuts through this deadlock. To begin with, the revelatory promise of the apocalyptic narrative and the redemptive, but impotent, insistence on the key importance of behavioral and techno-managerial change have to be fully rejected. In the face of the dystopian imaginaries mobilized to assure that the apocalypse will not happen sometime in the future (if the right techno-managerial actions are taken), the only reasonable response is "Don't worry, you are really right, the environmental catastrophe will not only happen, it is too late, it is already here in the actual present conditions of planetary life." The socio-environmental ruin is already here for many. It is not some distant dystopian promised future mobilized to trigger response today. It is only within the realization of the apocalyptic reality of the now that a new politics might emerge. Directing the environmental gaze to the perspective of those who are already barely surviving within the collapse of the socio-ecological conditions opens up a wide range of new ways of grappling with socio-ecological realities and opens a vast terrain of different political and socio-technical interventions other than the presently dominant ones.

Second, the consensus climate discourse is mobilized through insisting on the imminent dangers environmental change poses to the future of humanity. Humanity in this context is not just understood as the sum total of humans living on planet Earth but rather as human civilization, characterized by a range of shared and common beliefs, ethics, and principles. As Maurice Blanchot argued in the early 1960s (in the face of a then potential nuclear Armageddon), this view is predicated upon the fantasy that "humanity" actually exists, that there is a global human civilization, that human history has demonstrated the making of a common "humanity," one that requires or deserves salvation. However, the Real of the human presence on Earth of course exposes the empty core of such "humanity."[3]

The pervasive inequalities, the rampant uneven power relations, and the continuous objective and subjective violence inflicted by some humans demonstrate the radical antagonisms and

conflicts that cut through the human collective and signal that a communitarian "humanity" has never existed. It may never do so unless a sustained political fidelity to the possibility if not necessity, of its making is inaugurated. The disavowal in the environmental discourse of the barbarism that also characterizes humanity is a classic form of traumatic repression. As Blanchot argued, the issue is not to assure the future of a non-existing humanity as we know it, but first and foremost the creation of a humanity.

Indeed, a significant post-truth imaginary seeps into the dominant environmental discourse, a phantasmagoria of an abstract and virtual, but nonetheless threatened, global humanity. In doing so, the Real of class and other antagonisms that cut through the semblance of humanity is considered irrelevant or at least subordinate. Traversing the present fantasy of the possibility of a just transition through techno-managerial and (neo)liberal consumerist adjustments requires recognizing the trauma of the non-existence of humanity and that it is precisely this non-existence, i.e., the class and other dimensions that cut through humanity, that has already caused the environmental catastrophe. Traversing this fantasy is predicated upon reversing the dominant argument: recognizing that it is already too late—the apocalypse has already happened—and the only possible thing left to do is to engage in a process of constructing a real "humanity," of producing a human world in the world. The latter necessitates foregrounding radical politicization: namely, if we really want to take the ecological condition seriously, we have to displace the question of ecology onto the terrain of agonistic politicization, animated by a sustained fidelity to what Alain Badiou calls a passion for the real possibility and necessity of creating an egalitarian common world. It is through such political project that a common and enabling environment might be constituted. First and foremost, we must insist that indeed there is no alternative.

Endnotes

1. Erik Swyngedouw and Henrik Ernstson, "Interrupting the Anthropo-obScene: Immuno-biopolitics and Depoliticising Ontologies in the Anthropocene," *Theory, Culture, Society* 35, no. 6 (2018): 3-30.

2. Erik Swyngedouw, *Promises of the Political: Insurgent Cities in a Post-Democratic Environment* (Cambridge, MIT Press, 2018).

3. Maurie Blanchot, "l'Apocalypse Deçoit," in *Amitié* (Paris: Gallimard, 1971), 118-127.

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Erik Swyngedouw is Professor of Geography at Manchester University. His research interests include democracy and political power, environmental politics, and the politics of globalization. Previously, he was professor of geography at Oxford University and held the Vincent Wright Visiting Professorship at Sciences Po, Paris. His books include *Social Power and the Urbanization of Water*, *Liquid Power*, *Promises of the Political: Insurgent Cities in a Post-Political Environment*, *The Post-Political and its Discontents* (co-edited with Japhy Wilson), and *Urban Political Ecology in the Anthropo-obscene* (co-edited with Henrik Ernstson). He holds a PhD from Johns Hopkins University.

Welcome to the Gynocene

Martha Van Der Bly

Eras in human history—like phases in our own individual lives—often only gain meaning in hindsight. Similarly, the introduction of the Anthropocene as a paradigm for understanding the relationship between Humanity and Earth might as well mean that we are at the end of an epoch—and that the drumbeats of the terrible ending are heralding new beginnings.
Paul Raskin's thoughtful and inspiring essay urged me to revisit my 2006 essay *Pananthropoi – Towards a Society of All Humanity*, in which I argued that "unless communications techniques collapse or natural disaster catastrophically strikes, one all-encompassing society will emerge, resembling what I call the 'Pananthropoi' – in analogy with the geological Pangaea (All-Earth) and Panthalassa (All-Sea)."[1]

Paul Raskin identifies the essential fallacy of the paradigm of the Anthropocene: "By indicting a homogeneous 'we,' rather than a spent stage of history, the Anthropocene conceals a contested social system from scrutiny and shields it from culpability." There is a satirical website called *The Man Who Has It All* that sells a T-shirt with the text: "*Womankind, noun. A gender-neutral term referring to both women and men.*" The Anthropocene paradigm is used in a similar way. When writing about the "Pananthropoi," I noted that whereas the Greek plural "anthropoi" refers to humanity, the singular "anthropos," when referring to a specific individual, is always male: "There has been no greater exclusion than the millennia-long exclusion and marginalisation of women, that is, half the human race in the intellectual creation of our world. This has fostered a world deeply out of balance – as our times demonstrate. It is time to restore the balance."

Whatever we agree on as a presumed starting date of the Anthropocene, the truth remains that over half of the world's population has had very little opportunity to steer its direction. The

Anthropocene was never shaped by women as political leaders, as scientists or business owners, as artists or intellectuals. Female talent and potential were sacrificed on the altar of Anthropos's seemingly unstoppable urge to dominate and to procreate, to be fruitful and to multiply.

Are there really just two leading protagonists in this epic tragedy: "the Promethean creature Anthropos and the bountiful planet Earth," as Raskin so eloquently writes? Isn't there a playwright too? A playwright who has set up the drama, writing the beginning with the ending in mind, which, for all we know, might still be a happy ending, *Hollywood-style*? After all, this epic drama is not set up with a written script, but—extraordinarily—the playwright has given the protagonists free choice to perform the play, improvisation-style, within some general stage instructions as formulated in Genesis 1:28: "And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth." And thus Anthropos did, dutifully executing the will of the gods, the gods who set in motion what would ultimately be Anthropos's path of self-destruction.

But we must give Anthropos more credit. Amidst the process of plundering bountiful Earth, extraordinary things have been achieved! The distance between continents magically closed through daily image projection and voice transmission: through Skype (founded in 2003), Facebook (founded in 2004), WhatsApp (founded in 2009), and Instagram (founded in 2010). Anthropos created his masterpiece: the Pananthropoi, reversing the break-up of Pangea with unparalleled global connection. We do live in the future. And yes, Earth suffered in the process, her resources depleted, her strength plundered, but look at what Anthropos achieved! If not morally or culturally, then most definitely technologically. It is not all bad!

While "planet" in many languages is a masculine noun, earth is in almost all cultures and languages feminine: Mother Earth, the feminine principle of creation. Our planetary phase is, I would suggest, better thought of as a terrestrial phase. After all, there are many planets. But there is only one Earth. The Great Transition on which we seek to embark is a redefinition of our relationship with Earth and as such with the feminine principle, or indeed with womanity (noun, gender-specific, referring to over half of the world's population). The whisper of the Earth is equally the whisper of millions of women that are globally ravaged and plundered. Healing the

Earth cannot be achieved without healing the unequal relationship between men and women globally. After all, while men and women are the same in many ways, the respective male and female experience in the creation of new life are of course fundamentally different. There is no reason not to expect that a society founded on and guided by feminine values would be radically different from the Anthropocene and offer new opportunities for the development of a new relationship with Mother Earth.

Reckless Anthropos has come to a standstill. Will reflection and silence create space for transformative progress? Finally, Anthropos has time to look back, to observe the land that he successfully explored and dominated. He raised a building, depleting all resources in the process. The earth is black and scorched. He planted a flag on top, perhaps an expression of hope for the completion of the structure or some sort of blessing for the building and its future inhabitants. Green and Blue. The Earth flag. Now what? The construction workers are not necessarily those best equipped to make sure the house is decorated and livable for all.

Perhaps a new chapter of the grand narrative of humanity is about to begin. A chapter that shows a new perspective on the relationship with our significant other, Earth. Perhaps in this new storyline Anthropos is no longer the protagonist, but merely a supporting character. Though we must not expect that Anthropos will leave quietly: he will not give up what he owns. He will never surrender. He will not hand over the land, his land to the earth, he will not hand over the nation-state, his nation-state to the globalists. The exit might not be peaceful. The transition, the Great Transition, will never be smooth. But there is something greater and bigger to which we have to surrender: "*It's the land that is our wisdom. It is the land that shines us through. It's the land that feeds our children. It's the land. You cannot own the land, the land owns you*," as the Irish folksinger Dolores Keane sings. You cannot own the land, the land owns you. The playwright keeps on writing: a new chapter with new values, cultivating, what we have explored and nurturing instead of dominating. With new goals, new leaders, new protagonists. Paul Raskin suggests, "We have met the solution, and she is us." The Great Transition that we are witnessing, that we are feeling and observing, is probably the most radical time in the grand narrative of humanity and her relationship with Earth. I propose it is the beginning of a new epoch: the Gynocene.

About the Author

Martha Van Der Bly is a sociologist, actress, and independent filmmaker. Her company, Rose Rebel Productions, produces films that explore themes of common humanity and shared human destiny. Previously, she was Research Fellow at the Erasmus University Rotterdam, Visiting Fellow at the London School of Economics, and Honorary Visiting Fellow of City University London. Her research has won awards from the Royal Irish Academy, the World Society Foundation in Zurich, and the Boekman Foundation in Amsterdam. She holds a PhD in sociology from Trinity College Dublin.

Beware of Dangerous Metaphors

Tim Weiskel

In a short volume published decades ago entitled *Metaphors We Live By*, George Lakoff and Mark Johnson drew our attention to the fact that most of us, most of the time manage to make our way through life and make sense of the world around us with a relatively limited set of metaphors. As anthropologists have always emphasized, however, it is essential to understand that metaphors are not "instinctual," but rather "cultural," phenomena. They are not given to us in our DNA, but rather are learned very early on in life—usually as an aspect of learning the language and other rule-governed norms that we master while growing up in any given culture. So thoroughly are these cultural phenomena absorbed that humans come to regard them as "second nature."

Because metaphors are so deeply inscribed in our existence, we do not really have control over them at first, any more than we have control, for example, over the "mother tongue" that we learn, or the physical environment that is our first "home." Later in life, perhaps, we can reflect upon key metaphors that we internalized unconsciously as our eager and absorbent minds encountered life's complexities, but, just as many people never learn a second language beyond their "mother tongue," so, too, do many people—perhaps most—not learn to transcend the limits of the metaphors that came to govern their consciousness from their youngest years forward.

Herein lies much of our problem as a cultural species in the Anthropocene: we have evolved both as a physical species and a social species in a world whose governing physical parameters change on different time scales than our biophysical equipment as a mammal, on the one hand, or our cultural symbol systems as a social species, on the other. It is the relative "lag" time or

differential "acceleration" rates in these three simultaneous registers of our existence as a species (biophysical, genetic, and cultural) that causes the problems we must now confront.

At times it seems, for example, that the physical world in Earth's ecosystems is so "fixed" in its seas, shores, and mountain ranges that these things clearly outlast the rise and fall of all known human civilizations with their complex but tragically transitory symbol systems. In other cases, however, it seems that whether or not civilizations come or go, humans have remained impressively stable as an interbreeding, bipedal mammalian omnivore for perhaps the last million years or so, enduring and witnessing numerous global changes of climate and sifts in their habitats. On another scale, it seems that symbol systems and metaphors born of commonly shared cultural experiences of an expanding agrarian frontier upon newly discovered fertile land can give rise to "frontier cultures" around the world that share enduring cultural metaphors, independent of language or other divergent, contingent features reflecting their particular historical experience.

It is in this manner that with the "discovery" of the Western Hemisphere by European maritime powers from roughly 1492 onwards the cultural metaphors of frontier societies have come to dominate much of the mindset of the modern world. The new energy resources that came under the control of "Western civilization" since 1492—first, in the form of fertile topsoil, then in terms of fossilized carbon reserves (coal, petroleum, natural gas), and eventually in the exploitation of radioactive sub-atomic particles—gave rise to the illusion in frontier cultures that expansion could be virtually limitless for anything that they proposed to undertake.

While across the globe the physical frontiers were relatively quickly invaded and occupied, the subsequent illusion that ever-expanding exchange could infinitely fuel economies of perpetual growth came to be a core cultural tenet of all modern civilizations. Growth came to be embraced as both inevitable and good. As anthropologists who study religion have noted, the unquestioning "belief in growth" has become the most widely shared form of publicly professed religious belief on the planet. The pauper, the peasant, the priest, the professor, and the politician in all "modern" cultures adhere to the fundamentalism of growthism.[1]

The trouble for the human community comes, however—as Lakoff and Johnson pointed out—that all humans in all cultures can get into serious difficulty as a result of acting upon a misplaced

metaphor. Having expanded upon the things of nature, powerful "Western" cultures came to believe that "expansion" was in the nature of things. It is not. Indeed, it cannot be in any finite ecosystem.

As ecologists have pointed out, all stable ecosystems are dominated by negative feedback loops. Expansion in any continuously functioning living system (organism, population, or ecosystem) is a *phase*, not a perpetual *state*. If expansion persists for too long in any living population, it is an aberration. If it continues as a "state of affairs" unchecked, it can become a malignancy, a cancer—something that will cause the death of the entire living system of which it is a part.

Unfortunately, we are now witnessing the tragic *denouement* of a species-wide misplaced metaphor—that of the unshakable belief in "growthism" which now dominates the human enterprise in the Anthropocene. It is certainly the case that the fiction of continuous growth is a cultural phenomenon—part of the bundle of metaphors born of contingent human experience in "frontier cultures" since 1492. In this regard, it would seem to be subject to modification relatively quickly by our concerted human intentions to reform our past and reshape our future. On the surface, of course, cultures appear more malleable and nimble than the slow-changing features of our bio-geochemical environment of sea, shore, and rock. Furthermore, since cultures only exist by being "taught" and "learned," it would seem that they would be more readily "adaptable" than our biological equipment constrained by our received genetic code.

The problem is that our cultures do not (and perhaps never can) change on the same time scale as these other two simultaneous registers of our existence. This becomes apparent when we realize that what seemed like the most "rock-solid" parameters of our existence—i.e, the geophysical world in which we evolved genetically as a biological and socio-cultural species—has now altered the pace of its continuous evolution precisely because of the metaphorical delusions we have nurtured and perpetuated in our species-wide religious devotion to growthism.[2]

We are engaged collectively as a species in oxidizing terrestrial carbon—transforming it from its subterranean forms into gaseous forms—which we are now spewing into Earth's atmosphere at a rate we can barely document, let alone halt or reverse. Modern global civilization will not be able to survive this slavish addiction to growthism, even if it might be able to engineer a transition to more "sustainable" sources of energy like solar, wind, geothermal, or "safe" [sic] nuclear.

With "globalization," the parochial cultural delusions of Western colonial empires have been embraced in recent centuries and decades by former colonial subject populations in India, China, Brazil, and beyond. Indeed, they each regard growth as an essential "right," won in achieving "independence" from former colonial regimes that had come to dominate them in the past.

In effect, the species-wide metaphors that we have now come to live by in the Anthropocene will no doubt prove to be far more tragic than the personal *hubris* we long ago recognized as fatal. Our own cultural metaphors have led us astray in the Anthropocene. With all our impressive cultural achievements and technological cleverness, we are on the verge of becoming the engineers of the collapse of our civilization.

Notes

1. Tim Weiskel, "Rubbish and Racism: Problems of Boundary in an Ecosystem," *Transition Studies*, February 19, 2019, https://environmentaljusticetv.wordpress.com/2019/02/19/rubbish-and-racism-problems-of-boundary-in-an-ecosystem-the-yale-rev-iew-1983/.

2. Tim Weiskel, "Overcoming the Multiple Legacies of European Colonialism: Can The West Survive Its Most Cherished Historical Myths?," *Transition Studies*, September 9, 2019, https://environmentaljusticetv.wordpress.com/2019/09/09/part-1-overcoming-the-multiple-legacies-of-european-colonialism-can-the-west-survive-its-most-cherished-historical-myths/ and "Just Take the Case of Agriculture…," *Transition Studies*, May 6, 2020, https://environmentaljusticetv.wordpress.com/2020/05/06/just-take-the-case-of-agriculture/.

About the Author

Tim Weiskel is the founder of Cambridge Climate Research Associates and Transition Studies, an online video blog devoted to assisting organizations and individuals in understanding the transitions that must now be undertaken to enable the human community to move to a post-carbon world. Previously, he taught anthropology and history at Williams College, Yale University, and Harvard University. His principal field work was among the Baule peoples of the central Ivory Coast, focusing on the ecology of colonialism and post-colonial agriculture. A social anthropologist and historian by training, he holds a PhD from Oxford University, where he was a Rhodes Scholar.

Author's Response

Response to Comments

Paul Raskin

This forum's commentary constitutes no less than a treatise on the Anthropocene of awesome variety, acuity, and eloquence. As provocateur, I am elated; as respondent, I am daunted: "just what you wished for" coos one inner voice; "be careful what you wish for" scolds another. Rather than the second treatise that a full response would require, I offer here a few reactions on key axes of debate.

Before diving in, let's pause to note our broad alignment on major questions. The point of departure of the exchange is a scientific truth: the alteration of the earth system by human action. As Richard Falk put it, we accept the Anthropocene as a "dire warning that the human species is headed for disaster, if not extinction, if its ecological footprint is not greatly reduced in the relatively near future." Furthermore, we share the convictions that this condition reinforces the imperative to fundamentally revise reigning philosophical and political orientations, and that the case for a Great Transition is more compelling and urgent than ever.

We are concerned here with the historical origins, contemporary meaning, and future implications of the Anthropocene, not with global change science or whether the designation of a new geological epoch is warranted. As a socio-cultural concept, the Anthropocene, like many big ideas, is at once riveting, evocative, and nebulous. When longstanding passions and worldviews are refracted through this new prism, a wide spectrum of perspectives is revealed. Such robust intellectual and political diversity in service to our common pursuit is necessary and healthy.

Anthropos R Us…Or Not

Many of you addressed the central point raised in my opening essay that the "Anthropocene" formulation urges an ideological interpretation of the objective fact of earth system disruption. Namely, it implicates our species, rather than the contingent social formations that begot the crisis. A corollary to this premise is that an imperative to grow and dominate the natural world is inherent, rather than forged in the cauldron of social evolution.

Several commenters find that positing a trans-historical "we" (Anthropos) has considerable explanatory force. Stephen Purdey, for example, eloquently defends the essentialist premise of the standard Anthropocene narrative, naming the culprit "humanity as a single super-species" and asserting that "we grow aggressively because we can." But speculation about a biological imperative underlying human behavior must at least be balanced by recognition of an equally germane attribute—the plasticity of human behavior revealed through the wildly diverse spectrum of historical and cultural experiences. Looking through the Anthropos lens, collective historical agency vanishes leaving only the moral individual to somehow overcome the harsh destiny etched in our DNA. These premises and metaphors, although they tell part of the story, are insufficient for grounding historical understanding, future vision, and collective action.

Clive Hamilton brings his keen intellectual firepower to defending the Anthropocene idea of an undifferentiated "we" driving the geological shift. He is on point in his pushback against "left" critiques of the Anthropocene formulation that downplay global change science. Unfortunately, it is the case that some (far from all!) radical critics do fail to grasp the world-historic significance of the earth system rupture. Pouring old ideological wine into this new geological bottle will not do: the novel holistic condition we face demands fresh holistic thinking.

But Hamilton, too, decants old ideology in the Anthropocene bottle in glossing over the importance of inequality, conflict, and power, leaving his defense of the "we" premise as shaky as "leftist" arguments he rejects. We need a broader conceptual and finer-grain perspective that averts these polarized shibboleths. The Anthropocene opens our eyes partway, but occludes the ways anthropogenic impacts emerge from and act through societies riven by inequality, bigotry, and domination.

Many commenters develop this point. Erik Swyngedouw persuasively foregrounds the political dimension by highlighting the "radical antagonisms and conflicts" that shatter simple notions of a collective Anthropos. Transposing the argument, he notes that the idea of Anthropos's inexorable march to environmental apocalypse is deeply depoliticizing. In different registers, Arturo Escobar and Greg Anderson counterpose the pluriverse of cultures and experience to the homogeneity of a Westernized Anthropos.

In the concrete example of climate negotiations, "extreme inequality" undercuts international cooperation. Hamilton is right that honest assessments of the "-cene" today must confront China's immense carbon emissions and the need to stem emissions in the Global South, too. At the same time, addressing differential responsibilities and impacts—the rich largely caused the problem, the poor will suffer most—is not only an ethical imperative: it is integral to efficacious environmental strategy.

On Labels

One's comfort level with the term "Anthropocene" correlates with one's degree of resonance with the narrative underlying the appellation. It is an apt term if the species-as-a-whole is thought to be culpable for the earth system crisis. It is misleading, ahistorical, and uncontextual, and, therefore, depoliticizing, for critics who foreground social history, inequality, and the roots of the crisis in the modern world system.

Certainly, the Anthropocene's pronouncement of an "age of humanity" sounds the alarm, a loud call to wake up to the contemporary predicament. Nevertheless, on substantive and political grounds, "the Anthropocene" remains an unfortunate epithet for the planetary shift since it flattens historical complexity and misses an opportunity to draw attention to cultural and economic drivers. (Ironically, it's not a very good scientific term, either, since the earth system disruption transcends the confines of conventional geology—but that's another story.)

Still, "the Anthropocene" meme is here to stay. This offers a teaching moment for challenging its conceptual deficiencies and fallacies, while unflinchingly affirming the threats to the earth system it signals. In this context, we need to inject into the public discourse a more capacious term for

our moment. Until a better phrase comes along, I'm sticking with the "Planetary Phase of Civilization," coined by the Global Scenario Group over twenty-five years ago.

Consciousness vs. Structure

The old debate about the primacy of worldviews or institutional structures in shaping social evolutions resurfaces in the search for the historic roots of the Anthropocene. Some commenters underscore the emergence of forms of consciousness that separate humanity from nature and grant us dominion over the natural world. Others stress modern institutional formations, especially a voracious, self-expanding capitalist system.

Tim Weiskel, for instance, persuasively writes of the power of metaphor in shaping worldviews, specifically, the importance since 1492 of the metaphor of the frontier. This perspective, although offering food for thought, attributes too much causal power to the world of ideas. Ideas are tethered to the material engines of technological and social innovation, modes of production, and class conflict in an ongoing dance of subjective and objective conditions.

Thus, some commenters remind us of the fundamental role of institutional evolution in driving social-ecological change. Fred Magdoff usefully provides a bill of particulars indicting capitalist institutions as the source of the contemporary crisis. Indeed, the inherent growth and divisive impulses of capitalist dynamics—lurking restlessly even when tamed by its most humanized social democratic forms—propagate inequality, domination, and environmental degradation. Still, taming capitalism—a Policy Reform scenario—must be on the critical path to an ultimately transformative Great Transition scenario.

Lisi Krall, too, highlights social evolution in the march toward the Anthropocene, but in a different way. She roots the Anthropocene in the ascent of social hierarchy some 10,000 years ago, thus letting modernity, capitalism, and the Industrial Revolution off the hook. Indeed, there is much to learn from this long view (and from what is called the "early Anthropocene"). But drawing an unbroken historical line from the first great transformation (agriculture and early civilization) through the great transformation of modernity to the Planetary Phase is questionable. The revolutionary shifts along the way transformed everything—even the character of social hierarchy.

The indictment of capitalism by Magdoff stands as a valid part of the Anthropocene's origin story. Still, it is also true that capitalism released and stimulated a capacity for greed and feckless individualism preexisting in the human psyche and reinforced by modernist ideology (and, as Heikki Patomäki astutely points out, non-capitalist modern structures had similarly deleterious environmental impacts). The critique stands: the Anthropocene narrative essentializes and dehistoricizes such behavior, downplaying how different social formations elicit different dimensions of human potential. Still, it carries a grain of truth about our species.

Historiographies that privilege consciousness or structure risk one-sidedness. Especially in transformative eras, no doubt novel ideas and institutions coevolve in a reciprocal process of coevolution. So the twentieth-century "vulgar Marxism" of the Soviet era that held ideas to be epiphenomena of modes of production has thankfully been left in the dust. At the same time, we need to tamp down antipodal formulations that root contemporary realities in the advent of certain ideas, such as mechanistic physics or domination of nature. Modes of consciousness and modes of production are both parent and offspring in the dialectic coproduction of social-ecological change.

Implications

I opened these remarks by noting our broad consensus on the ecological significance of the Anthropocene. Still, Jeremy Baskin finds the Anthropocene "not an especially novel insight," and, indeed, if all it meant was anthropogenic impacts at global scale, that would be an old story writ large. But the erosion of the integrity and resilience of the earth system is more than the sum of environmental impacts. A change in the state of the system would be something ontologically new on the face of the earth, carrying profound implications for civilization.

Many commenters believe that this condition calls for fostering new forms of consciousness along two distinct dimensions: our relationship to nature and our relationship to each other. For instance, Pella Thiel, a visionary for the cause of the rights of nature, finds new momentum for efforts to codify those rights in international law. Greg Anderson and Arturo Escobar urge a recovery of the sense of human embeddedness in nature that is found in premodern societies and persists in contemporary indigenous cultures. From this perspective, the Anthropocene is thus not a predetermined or inevitable feature of history, but the culmination of the modern era

that can be reversed. Surely, we have much to learn from premodern ways of being that ought to be carried forward in envisioning a Great Transition. But we are on a one-way journey into the unprecedented Planetary Phase with no return ticket, and the nostalgic temptation to romanticize or mythologize the past, and mistake it for the destination, should be resisted.

Stephen Purdey and Herman Daly forcefully remind us that our species, while embedded in nature, is endowed with "transcendent" capacities that enable the flowering of human culture. Daly goes further, suggesting that the human spirit transcends nature itself. He argues persuasively that the dominant scientific philosophy of mechanistic materialism cannot account for higher human endowments. But he gives short shrift to alternative materialisms (such as philosophical emergence) that can accommodate human consciousness, reflexivity, and culture.

Turning to intra-human affairs, how might the Anthropocene influence consciousness? Debbie Kasper argues that the term helps provide the detachment necessary for us to reflect with depth and breadth on the current moment. For Maurie Cohen, the Anthropocene brings the potential (not the certainty) of cultivating a culture of reciprocity built on the necessity of mutualism. Many commenters stressed new urgency in the wake of the Anthropocene for policy action, e.g., to mute climate change, to build new economic institutions, and, more generally, to learn from nature and turn from growth to resilience (as Olivier Hamant pointedly notes).

Indeed, the planetary jolt will stimulate these kinds of progressive responses. Yet, the scope for a unifying vision and systemic change will depend on countering less felicitous responses to the Anthropocene, such as technocratic geoengineering or a culture of despair. Karl-Ludwig Schibel is pessimistic, warning that the Anthropocene paradigm could lead to "authoritarian—even totalitarian—conclusions." It is certainly plausible that the chaos of crisis could beget a Barbarization scenario.

But the meta-irony is that the Anthropocene, in naming "we" as the cause of the crisis, may help constitute a global "we," a movement to mute its worst consequences. This kind of "we" would offer another path to the dismal scenarios I summarize in my essay as "hubristic techno-fix, voluntary simplicity, and ecological Armageddon." Here, let me clear up a misunderstanding. Jeremy Baskin argues against including "voluntary simplicity" in this dead-end gallery, advocating "collective self-restraint" as central to a GT. I agree, but by "voluntary simplicity," I refer to

individualistic lifestyle changes, rather than needed collective efforts for degrowth, sustainable consumption, and post-consumerism.

In this spirit, several comments argued that the Anthropocene opened new possibility and heightened urgency for collective transformative action. Martha Van Der Bly sees the potential for a new era rooted in "nurturing instead of dominating." Mimi Stokes, drawing from classical dramaturgy, locates the foundation for such action in the lesson that the "human actor in living systems has agency on a planetary scale." Uchita de Zoysa reminds us that the times are ripe for actions to crystalize unified action: "a movement for mass mobilization is begging for attention." Amen.

Where Are We?

A basic tenet of GTI is that a profound historical shift is underway that binds people, places, and Earth in one encompassing system. The emergent social-ecological epoch—which I refer to as the Planetary Phase of Civilization—has numerous manifestations and consequences, notably the step-shift in the state of the planet (aka "the Anthropocene"). In my essay, I argue that the Planetary Phase is the circumscribing predicate for the Anthropocene. We face a host of other global risks and entanglements. Richard Falk, long an indispensable guide to this larger reality, reminds us that the world still brims with violence and the existential threat of nuclear weapons. The list of potential systemic horrors could be extended to include future pandemics, economic meltdowns, political upheavals, food system breakdowns, and so on.

Situating the rupture in geological history—the Anthropocene—in the rupture in world history—the Planetary Phase—is the key to a robust understanding of our moment. This understanding is essential for nurturing a defragmenting global movement for a Great Transition. The Anthropocene concept helps jolt consciousness, but cannot substitute for a theoretical framework attuned to the inherent uncertainties, power cleavages, and choices that punctuate the zigzag history that brought us to this pivotal moment, and will carry us into the indeterminate future.

I will close with a note to the colleagues who, impatient with the abstract tenor of this discussion, stayed on the sidelines. Indeed, their message—rise from our armchairs and act!—should be

heeded. At the same time, let us not forget that good practice and good theory go hand-in-hand: theory without action won't get us anywhere; action without theory won't get us where we want to go.

Coda: On Ontology (and on?)

Above I challenged Herman Daly's view that philosophical materialism underlies the degradation of Earth by suggesting that a non-reductionist materialism—"emergentism"—might be an alternative to both mechanistic science and supernaturalism. Daly gives this short shrift, but Heikki Patomäki brilliantly summarizes emergence as a way of setting the stage for his own sweeping meditation on history. I worry that the anti-science tendency detectable even in this exchange improperly confuses reductionism with science, a concern I believe worthy of a future forum.